GRÄSSLIN
YOUR SENSES. OUR SOLUTIONS.

feeling OpenTherm

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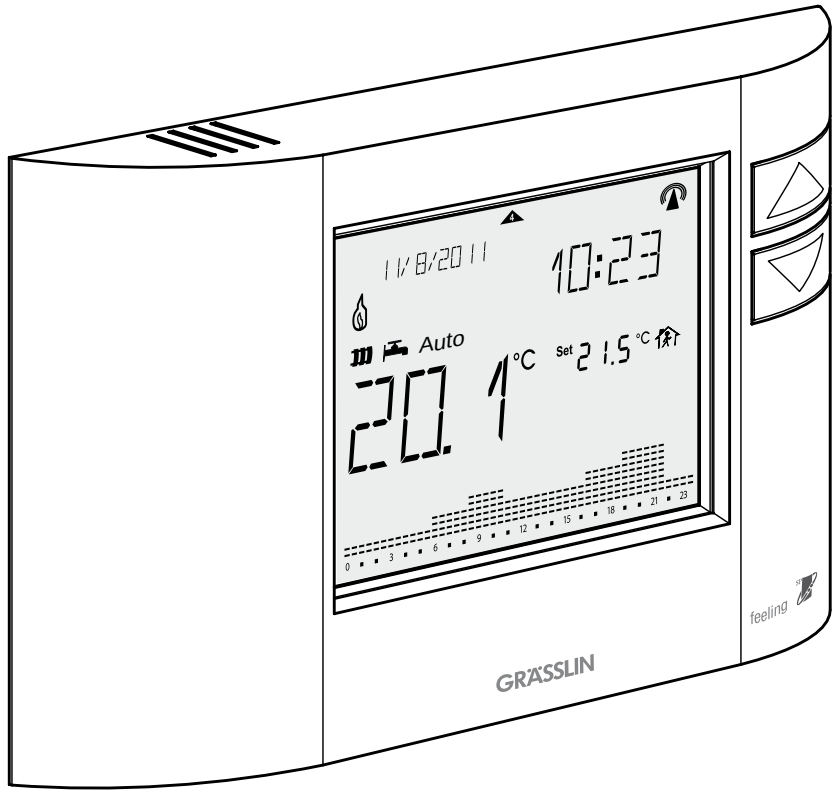

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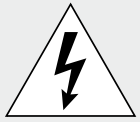
Sicherheitshinweise



WARNUNG

Lebensgefahr durch elektrischen Schlag!

▷ Anschluss und Montage ausschließlich durch Elektrofachkraft!

- Um Verletzungen zu vermeiden, dürfen Anschluss und Montage ausschließlich durch eine Elektrofachkraft erfolgen!
- Beachten Sie die nationalen Vorschriften und Sicherheitsbedingungen.
- Eingriffe und Veränderungen am Gerät führen zum Erlöschen der Gewährleistung und Garantie.

Lesen und beachten Sie diese Anleitung, um eine einwandfreie Funktion des Gerätes und ein sicheres Arbeiten zu gewährleisten.

Angaben zum Gerät

Gerätebeschreibung

Digitale Raumthermostatuhr mit modulierender Brennsteuerung, welche die Steuerung und Programmierung von Brauchwasser- und Heizungsanwendungen durch die Übertragung von Daten zwischen der Raumthermostatuhr und dem Boiler ermöglicht.

Die Raumthermostatuhr verfügt über verschiedene Betriebsmodi sowie zusätzliche Eingänge um Zubehör, wie z. B. Außentemperaturfühler, Präsenzmelder oder Fenster/Türen Kontakt, anzuschließen.
Zudem ist eine Steuerung des Raumthermostaten per Telefon möglich.

Bestimmungsgemäße Verwendung

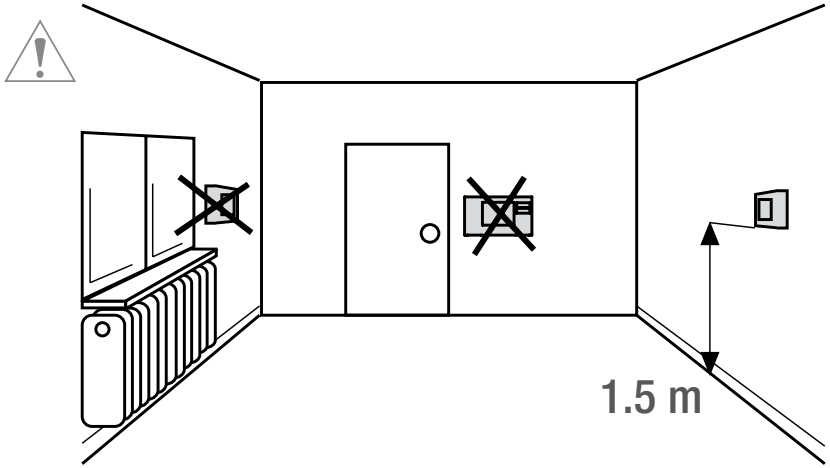
- Steuerung von OpenTherm Boiler und Brenner.
- Aufputzgerät zur Installation an Wänden.
- Geeignet zur Installation auf Unterputzdosen.
- Nur für den Einsatz in trockenen Räumen geeignet!

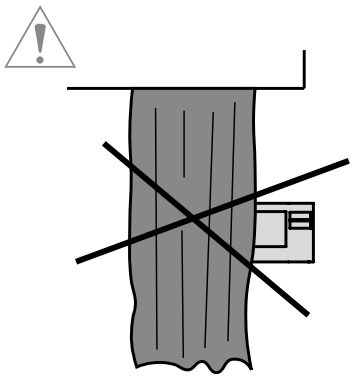
Technische Daten

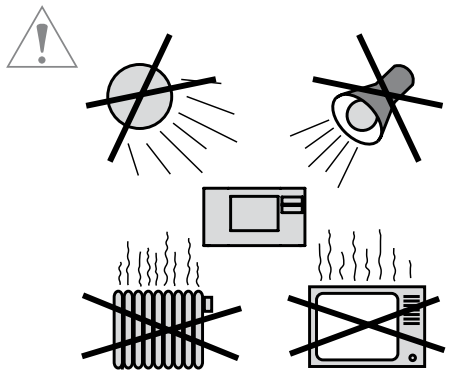
Maße H x B x T (mm)	87 x 154 x 27
Gewicht (g)	200
Spannungsversorgung	OT-Bus von Boiler (optional: Batterien 1,5 V AA LR6)
Batterielebensdauer	2 Jahre (Abhängig von der Schalthäufigkeit)
Gangreserve	> 1h (ohne optionale Batterien)
Anschlussart	OT-Bus – Schraubklemmen / 1,5 mm^2 externe Eingänge – Steckklemmen / 1,0 mm^2
Auflösung der Raumtemperatur-anzeige	0,1°C
Temperatur-Einstellbereich	+5°C ... + 32°C
Zeitanzeige	24 h oder 12 h AM/PM Format
Auflösung der Zeiteinstellung	
– Tageszeitanzeige	1 Minute
– Programm	30 Minuten
Temperatur-Regelgenauigkeit	± 0,5°C (20 K/Stunde)

Wärmemessung (Heizsystem)	3 K/Stunde
Raumtemperaturanzeige	+0°C ... + 50°C
Programmierung	Wochenprogramm mit bis zu 48 Zeit- und Temperaturprogrammen
Vorprogrammierte Programme	4 + 1 Benutzerdefiniert
Schutzklasse	II
Schutzart	IP40
Displaybeleuchtung	Ja / hellblau
Externer Eingang	– analog - spannungsfrei – digital - Sensor NTC 100 kΩ
Manueller Override	Ja
Regulierung	Modulation
Farben: Weiß / Anthrazit / Silber	9010 / 7016 / 9006

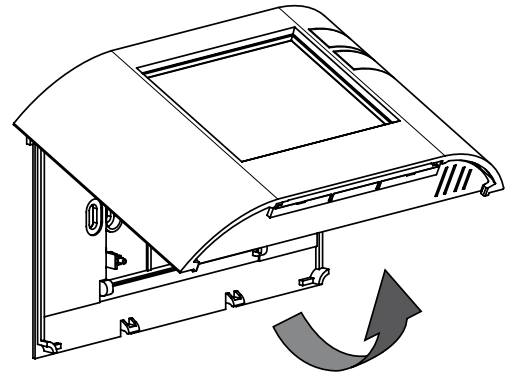
Installation und Montage



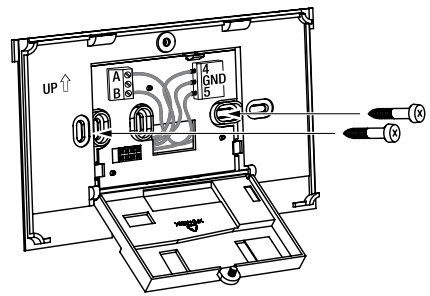




1 Gerät öffnen

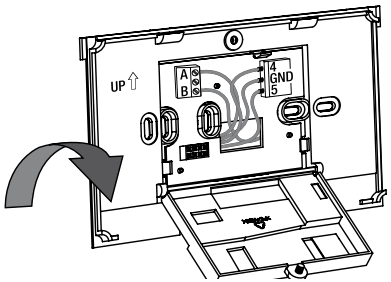


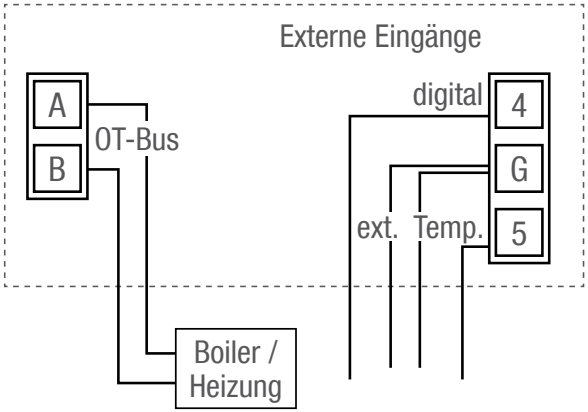
2 Wandbefestigung



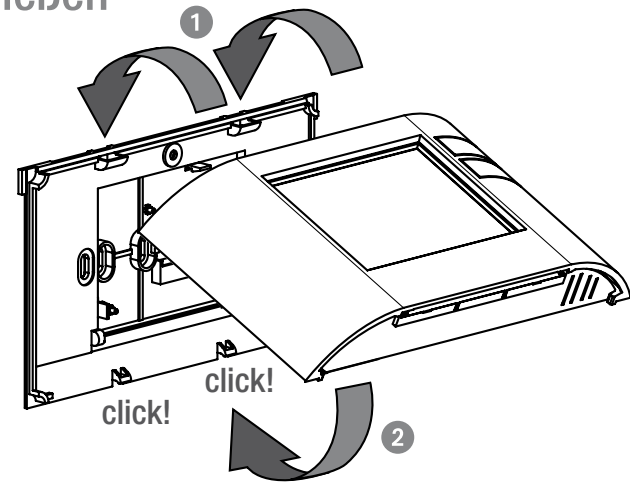
3 Anschluss / Anschlussplan

⚠ Anschluss und Montage ausschließlich durch Elektrofachkraft!

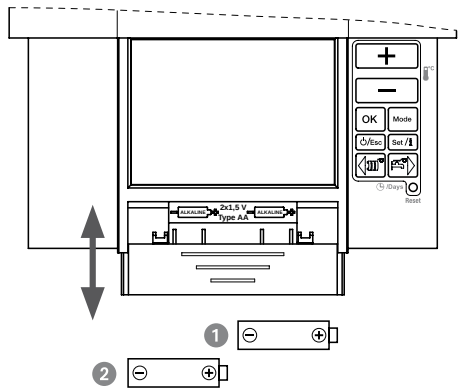




4 Gerät schließen



5 Batterien einlegen (optional)



Verwenden Sie
2 x 1.5 V AA LR6

(Für Hintergrund-beleuchtung, falls der Boiler kein Smart Power unterstützt.)

Bedienung und Einstellung

Das Gerät bietet zwei Möglichkeiten die Raumtemperatur zu regulieren:

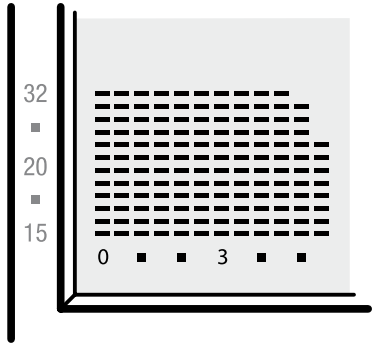
- **Raumtemperaturabhängige Regelung**
  ohne Außentemperaturfühler (PID Einstellbar, 2-Punkt Regulierung oder Optimum-Start).
  Im Bediengerät ist ein Raumtemperaturfühler integriert, welcher Wärmequellen, wie z. B. Sonneneinstrahlung oder Kaminöfen, berücksichtigt.

- **Außentemperaturabhängige Regelung**
  mit Außentemperaturfühler (OTC – outdoor temperature compensation)

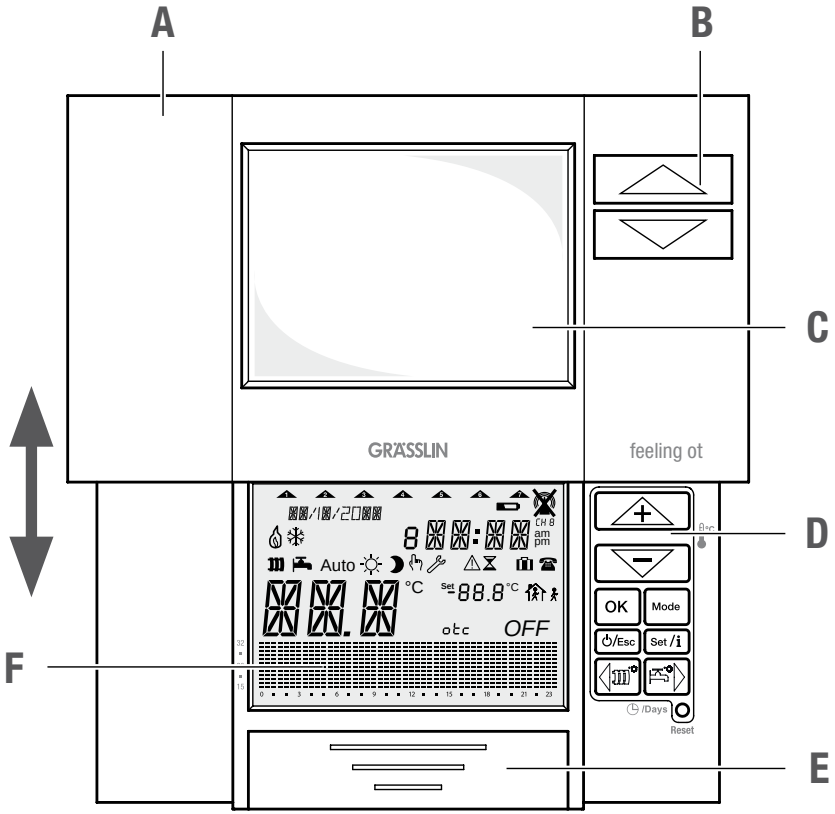
  Siehe Kapitel „Externe Eingänge; Außentemperatursensor“

Bedienhinweise

- Blinkende Texte signalisieren eine notwendige Eingabe. Erfolgt innerhalb von 2 Minuten keine Eingabe, kehrt das Gerät in den Automatikbetrieb zurück.
- Bestätigen Sie alle Eingaben mit **OK.**
- Gesicherte Einstellungen werden im Datenspeicher abgelegt.
- Das Histogramm zeigt das programmierte Temperaturprofil
  7 – 15°C = wird als ein Segment dargestellt
  16 – 26°C = ein Segment stellt 1°C dar
  über 26°C = wird als 12 Segmente dargestellt



Baugruppenbeschreibung



A Verschiebbare Geräteabdeckung

B Tasten für manuelle Override-Funktion (Override-Tasten)

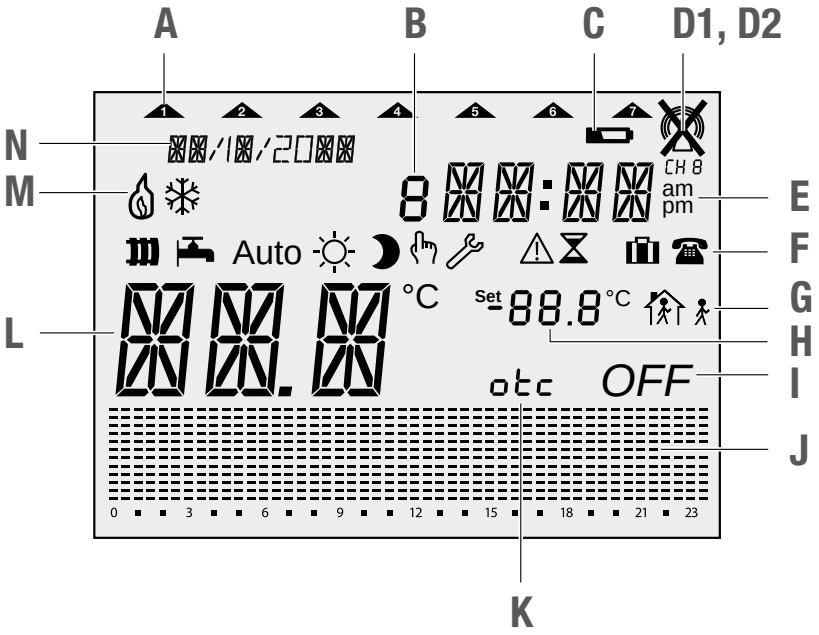
C Fenster

D Tastatur

E Batteriefach

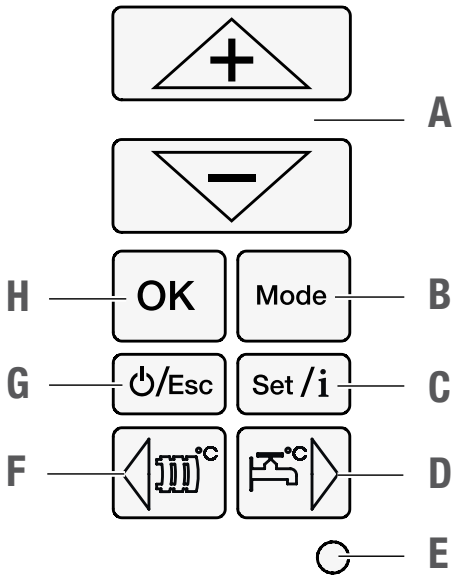
F Display

Display-Anzeige



A Aktueller Wochentag
(1 = Montag, 2 = Dienstag, ...)
B Betriebsstunden
C Batterie Status
D1 Antennensymbol: Kommunikation EIN;
blinkt bei Datentransfer
D2 Antennensymbol durchgestrichen:
Kommunikationsproblem
E Uhrzeit, 12h oder 24h Format
F Betriebsmodus
G Symbol für Raum-/Außentemperatur
H Eingestellte Temperatur
I OFF-Modus
J Zeit/Temperatur Histogramm
K Außentemperaturabhängige Regelung (OTC)
ist aktiviert
L Aktuelle Temperatur
M Statusanzeige Betriebsmodus
N Aktuelles Datum

Funktionstasten



* Drücken Sie die **RESET**-Taste, wenn Sie die Raumthermostatuhr wieder auf die Montageplatte setzen (nur wenn das Gerät ohne Batterien arbeitet).

A **+/–** Tasten um Temperatur, Tage, Stunden und Ereignisse einzustellen.

B **MODE**-Taste zur Auswahl der verfügbaren Betriebsmodi.

C **INFO**-Taste zur Abfrage wichtiger Einstellungen.
SET-Taste für Einstellungen nach der Inbetriebnahme (Drücken und halten Sie die Taste für 5 Sekunden).

D **DHW**-Taste (▷-Taste) zur Anzeigen und Steuerung der Brauchwassertemperatur (Domestic Hot Water).

E **RESET**-Taste zur Rückkehr zu den Werkseinstellungen. *

F **CH**-Taste (◁-Taste) zum Anzeigen der Ist/Soll-Temperatur der Zentralheizung (Central Heating).

G **ESC/STANDBY**-Taste: EIN/AUS-Taste, einen Schritt zurück im Menü.
Drücken der Taste > 3 Sekunden um ins Hauptmenü/ Automatikbetrieb zurück zu kehren.
Drücken der Taste > 5 Sekunden um in Standby-Modus zu gelangen.

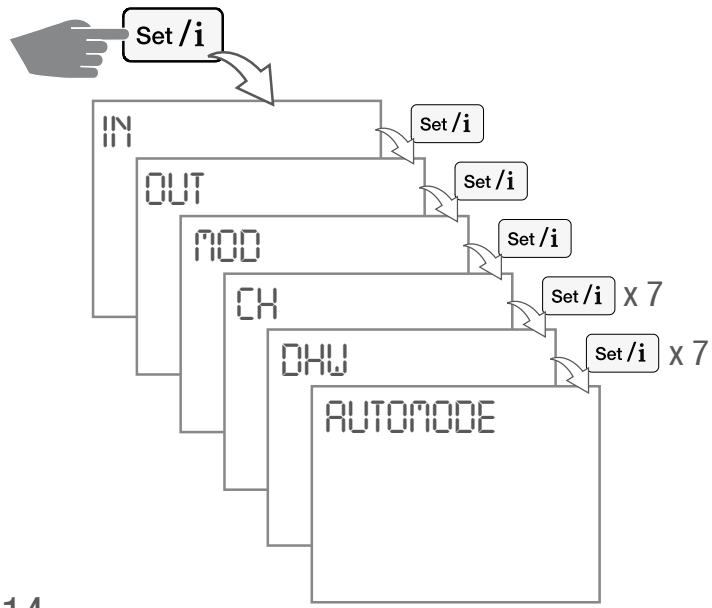
H **OK**-Taste zur Bestätigung von Eingaben und um einen Schritt vorwärts zu gelangen.

Funktionstasten – Direktzugriff

Info Menü

Hier können Sie folgende Informationen abrufen:

- aktuelle Raumtemperatur (IN)
- aktuelle Außentemperatur (OUT)
- Modulations-Level in % (MOD)
- Programme – Zentralheizung (CH)
- Programme – Brauchwasser (DHW)

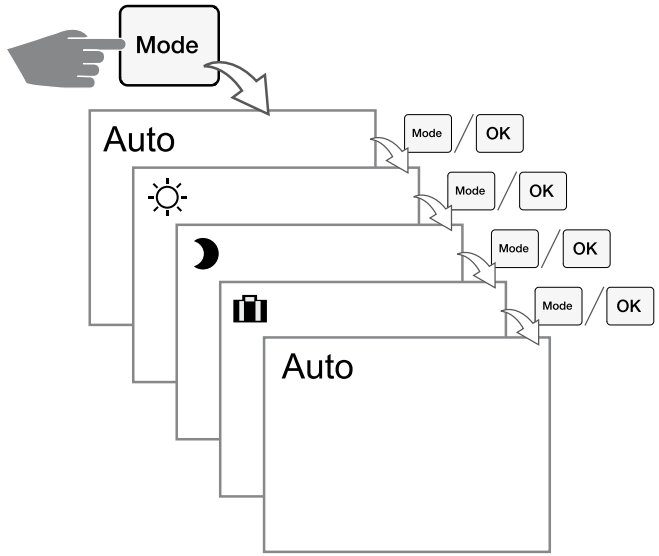


Betriebsmodus

Hier können Sie folgende Betriebsmodi wählen:

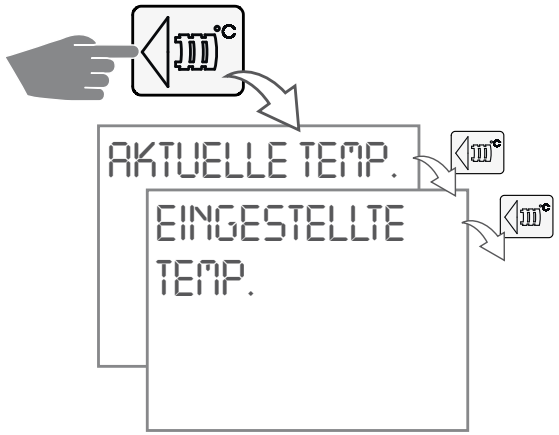
- Automatikbetrieb (Auto)
- Komfort-Temperatur-Modus (☼)
- Absenk-Temperatur-Modus (◗)
- Ferienmodus (🧳)

▶ Drücken Sie **OK** um die Auswahl zu bestätigen.



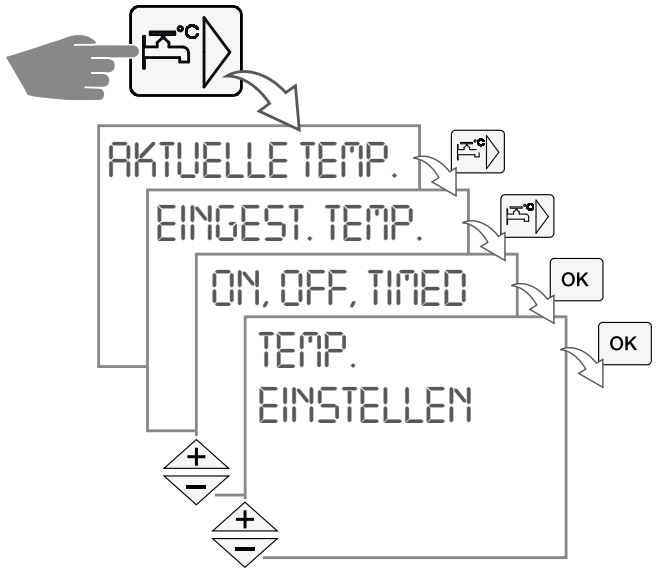
Temperaturmenü – Zentralheizung

Hier können Sie die aktuelle (ACt) und eingestellte (SEt) Heiztemperatur ansehen.



Temperaturmenü – Brauchwasser

Hier können Sie die Brauchwassertemperatur kontrollieren und einstellen.

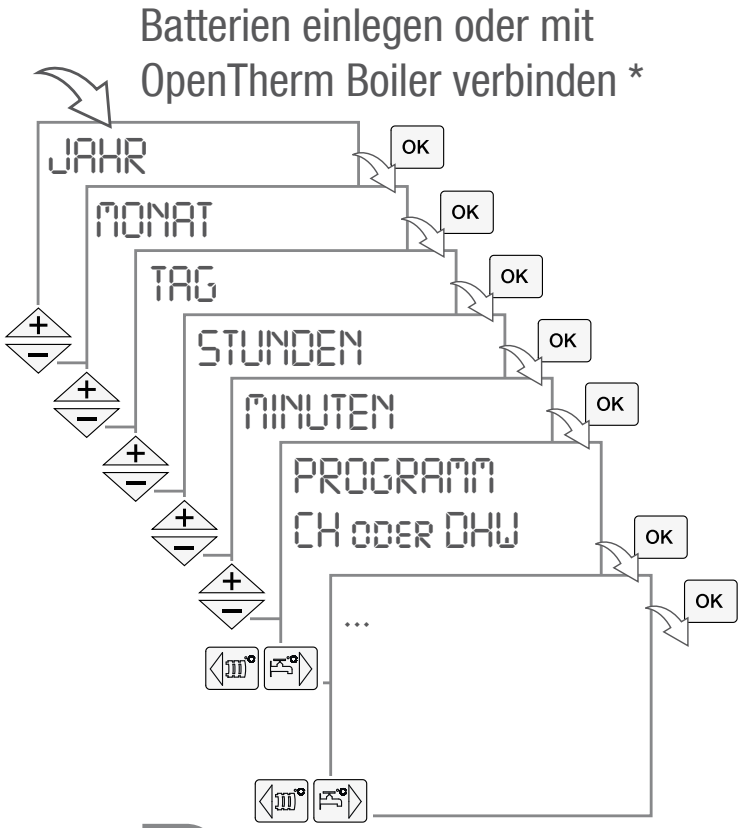


1. Drücken Sie die **DHW**-Taste
   ▷ Anzeige der aktuellen Wassertemperatur
   ▷ Anzeige der eingestellten Wassertemperatur
2. Wählen Sie wann Brauchwasser benötigt wird:
   ON (EIN) = ganztägige Brauchwasseraufbereitung
   OFF (AUS) = keine Brauchwasseraufbereitung
   tIM (timed) = programmabhängige Brauchwasseraufbereitung,
   siehe Kapitel “Neues Programm – Brauchwasser (DHW)”, Seite 22.
3. Bestätigen Sie mit **OK**.
4. Wählen Sie die gewünschte Brauchwassertemperatur ➔ **OK**

Inbetriebnahme

Datum und Uhrzeit einstellen

Abfolge zur Einstellung des Datums und der Uhrzeit bei der Inbetriebnahme.
15/06/2011 erscheint als Werkseinstellung.



* Wenn keine Batterien eingelegt sind kann es bis zu 45 Sekunden dauern, bis die Kommunikation zwischen Raumthermostatuhr und Heizkessel über OT-Bus initiiert ist.

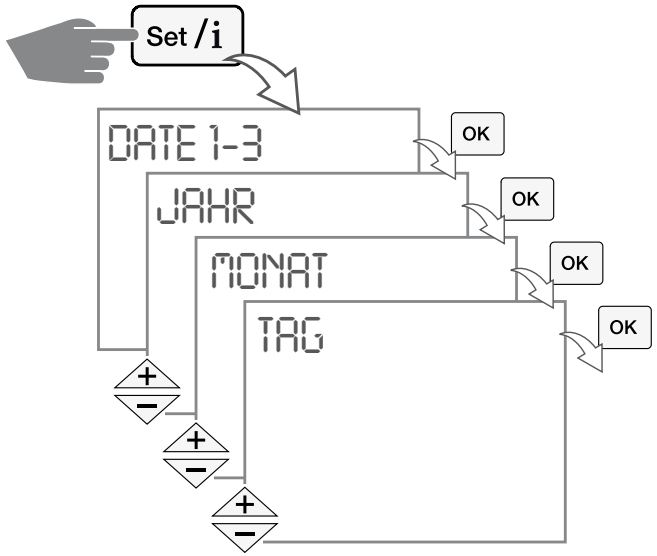
- Mit den **+/–** Tasten können Sie Jahr, Monat, Tag, Stunde und Minute einstellen.
- Drücken Sie **OK** um die Auswahl zu bestätigen.
- Für eine detaillierte Vorgehensweise zum Erstellen eines neuen Programms siehe Kapitel „Neues Programm –Zentralheizung (CH)“ oder „Neues Programm – Brauchwasser (DHW)“.

Einstellungen

Drücken Sie die **SET/INFO**-Taste für 5 Sekunden um ins Menü „Einstellungen“ zu gelangen. Hier können Sie Datum, Zeit und Programme für Zentralheizung und Brauchwasser einstellen.

Mit den **+/–** Tasten können Sie wählen zwischen:
– 1-3 = Einstellen des Datums
– 2-3 = Einstellen der Zeit
– 3-3 = Einstellen der Programme
(Zentralheizung oder Brauchwasser)

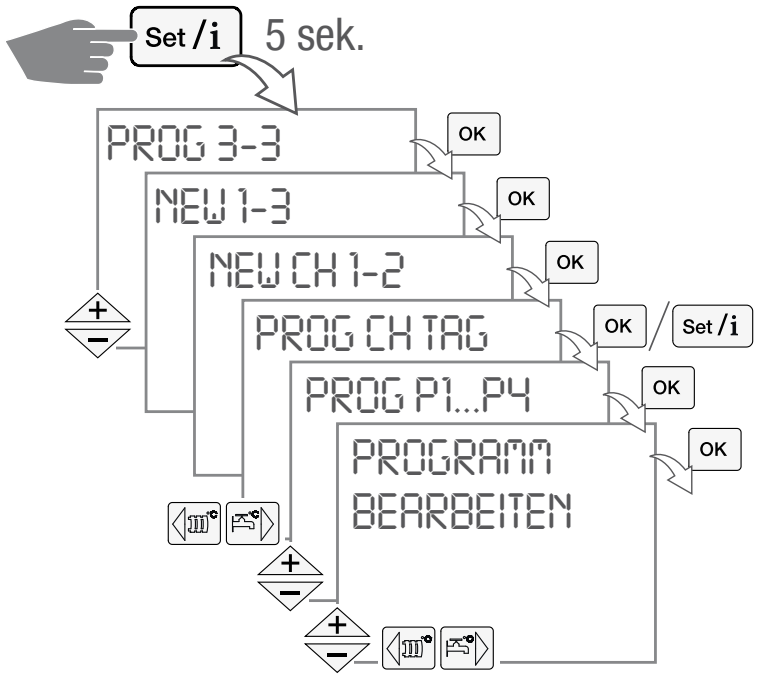
Datum und Uhrzeit einstellen



- Mit den **+/–** Tasten können Sie Jahr, Monat, Tag, Stunde und Minute einstellen.
- Drücken Sie **OK** um die Auswahl zu bestätigen.

- Das Einstellen der Uhrzeit erfolgt auf die gleiche Weise wie das Einstellen des Datums.

Neues Programm – Zentralheizung (CH)



1. Drücken Sie die **SET/INFO**-Taste für 5 Sekunden.
2. Wählen Sie **PROG 3-3 ➔ OK**
3. Wählen Sie **NEW 1-3 ➔ OK**
4. Wählen Sie **NEW CH 1-2 ➔ OK**
5. Gewünschte Tage wählen (◁ oder ▷-Taste)

Wählen Sie zwischen:

- komplette Woche: 1-7
- Arbeitswoche: 1-5
- Wochenende: 6-7
- Einzeltage: 1, 2, 3, 4, 5, 6, 7

▶ Tagesblock mit **OK** bestätigen.

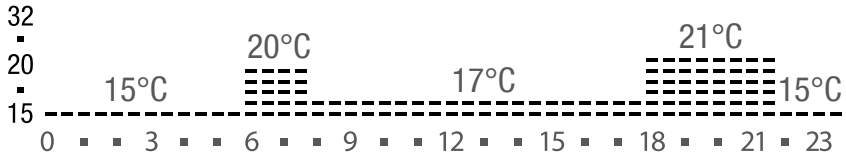
▶ Einzeltage mit der **SET/INFO**-Taste wählen. Individuellen Tagesblock anschließend mit **OK** bestätigen.

Programm auswählen

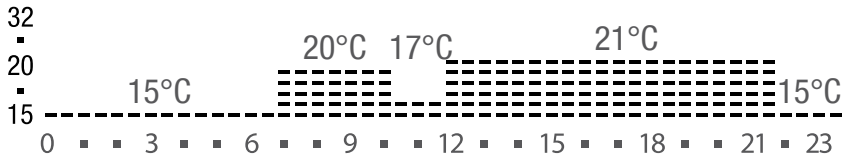
Jedem Wochentag oder Tagesblock muss ein Programm **P1, P2, P3, P4** (vordefiniert) oder **Pd** (benutzerdefiniert) zugeordnet werden.

6. Gewünschtes Programm wählen **+/–** und mit **OK** bestätigen.

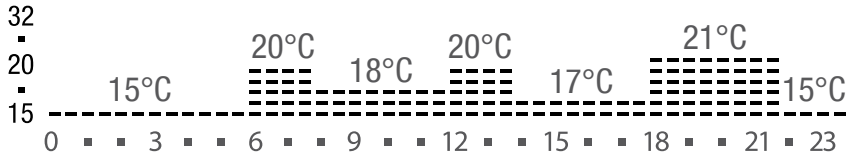
P1



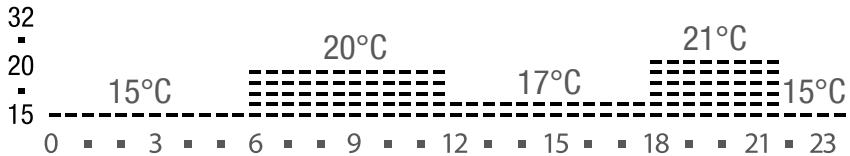
P2



P3



P4



Pd

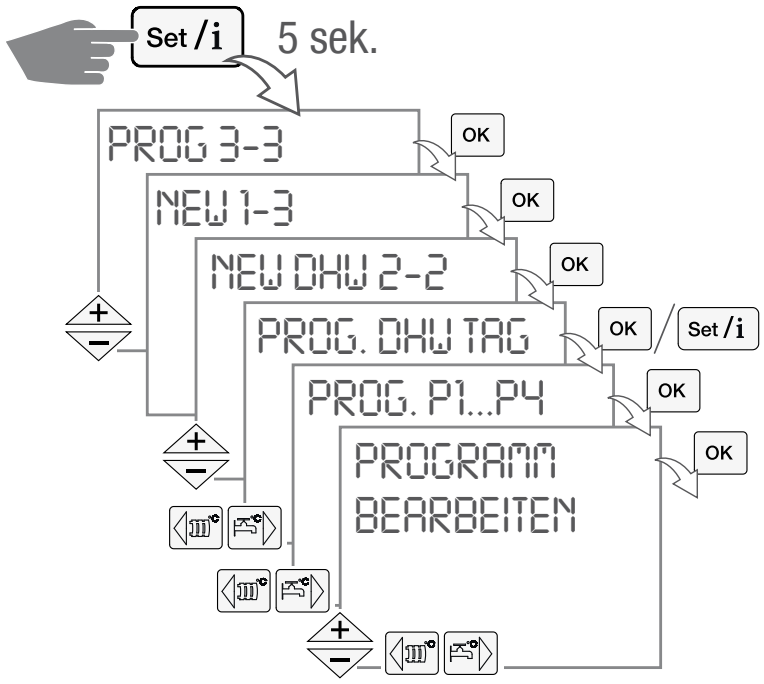
Benutzerdefiniertes Programm.

Wenn gewünscht können Sie die vordefinierten Programme P1-P4 modifizieren oder unter Pd ein eigenes Programm erstellen.

Benutzen Sie die **+/–** Tasten um die Temperatur Schrittweise um 0,5°C zu erhöhen/verringern.
Benutzen Sie die ◁ oder ▷-Taste um je 30 Minuten vorwärts/rückwärts zu gehen. Der zuvor eingestellte Temperaturwert wird dabei übernommen.

7. Drücken Sie **OK** um die Einstellungen zu speichern.

Neues Programm – Brauchwasser (DHW)



1. Drücken Sie die **SET/INFO**-Taste für 5 Sekunden.
2. Wählen Sie **PROG 3-3 ➔ OK**
3. Wählen Sie **NEW 1-3 ➔ OK**
4. Wählen Sie **NEW DHW 2-2 ➔ OK**
5. Gewünschte Tage wählen (◁ oder ▷-Taste)

Wählen Sie zwischen:

- komplette Woche: 1-7
- Arbeitswoche: 1-5
- Wochenende: 6-7
- Einzeltage: 1, 2, 3, 4, 5, 6, 7

▶ Tagesblock mit **OK** bestätigen.

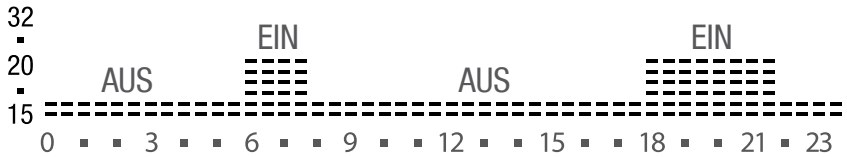
▶ Einzeltage mit der **SET/INFO**-Taste wählen. Individuellen Tagesblock anschließend mit **OK** bestätigen.

Programm auswählen

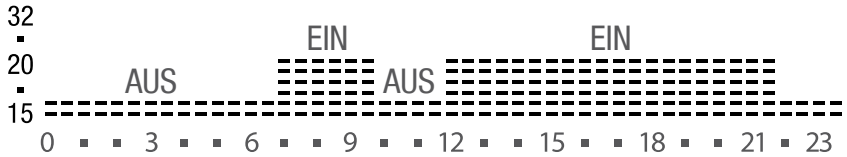
Jedem Wochentag oder Tagesblock muss ein Programm **P1, P2, P3, P4** (vordefiniert) oder **Pd** (benutzerdefiniert) zugeordnet werden.

6. Gewünschtes Programm wählen **+/–** und mit **OK** bestätigen.

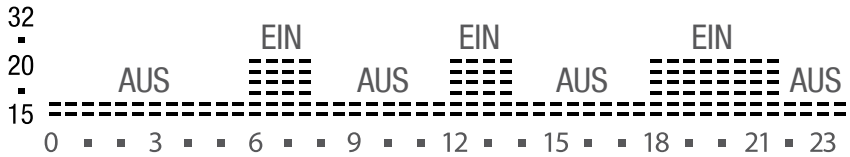
P1



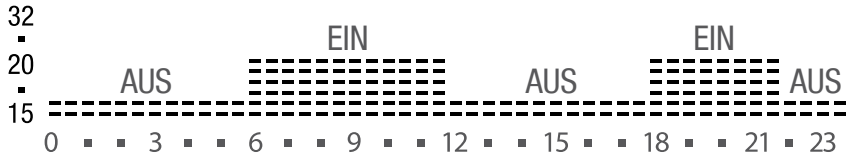
P2



P3



P4



Pd

Benutzerdefiniertes Programm.

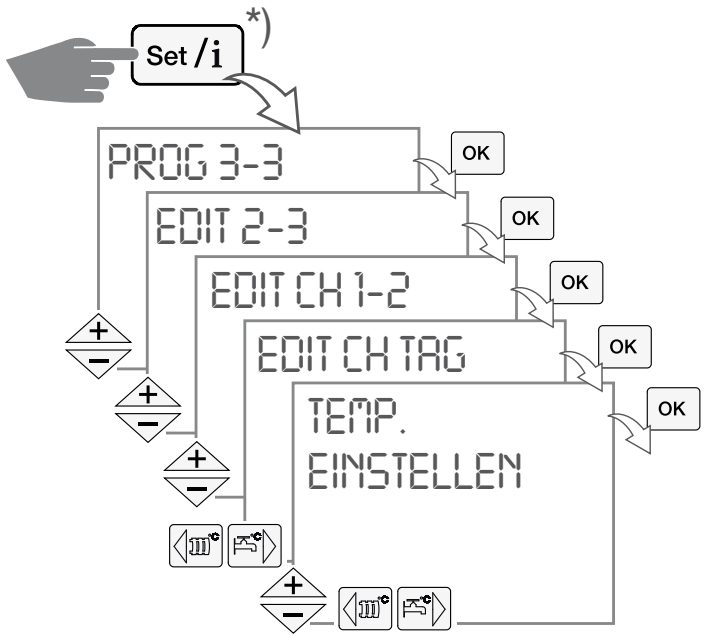
Wenn gewünscht können Sie die vordefinierten Programme P1-P4 modifizieren oder unter Pd ein eigenes Programm erstellen.

Benutzen Sie die **+/–** Tasten um die Brauchwasseraufbereitung EIN oder AUS zu schalten.
Benutzen Sie die ◁ oder ▷-Taste um je 30 Minuten vorwärts/rückwärts zu gehen. Der zuvor eingestellte Wert (EIN/AUS) wird dabei übernommen.

7. Drücken Sie **OK** um die Einstellungen zu speichern.

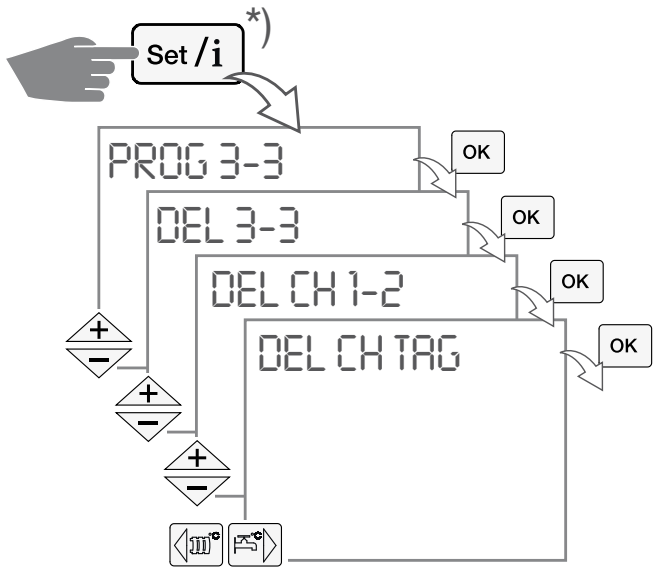
Um die programmabhängige Brauchwasseraufbereitung zu aktivieren müssen Sie im Temperaturmenü „Brauchwasser“ die Einstellung **tIM** wählen, siehe Seite 16.

Programm bearbeiten



*) Drücken Sie die Taste für 5 Sekunden.

Programm löschen



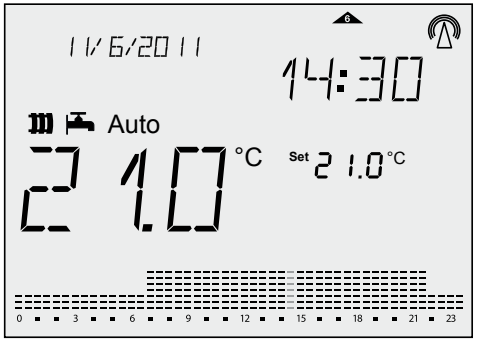
*) Drücken Sie die Taste für 5 Sekunden.

Betriebsmodi

Drücken Sie die **MODE**-Taste so oft, bis der gewünschte Betriebsmodus erscheint und bestätigen Sie mit **OK.**
Drücken Sie die **MODE**- oder **ESC**-Taste für 5 Sekunden um den jeweiligen Betriebsmodus vorzeitig zu beenden. Die Raumthermostatuhr kehrt anschließend in den Automatikbetrieb zurück.

Automatikbetrieb

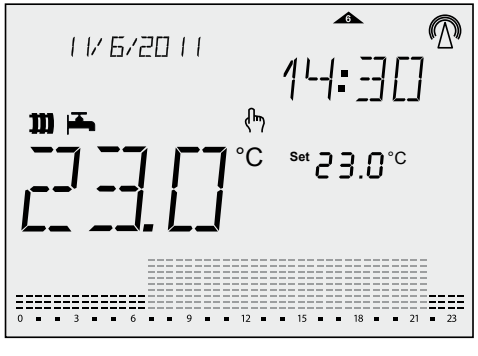
Symbol: Auto (bei raumtemperaturabhängiger Regelung)
Auto + **otc** (bei außentemperaturabhängiger Regelung)



Nach jeder Programmierung kehrt das Gerät in den Automatikbetrieb zurück. Hier laufen die vordefinierten oder benutzerdefinierten Programme ab.

Manueller Override (bei raumtemperaturabhängiger Regelung)

Symbol:



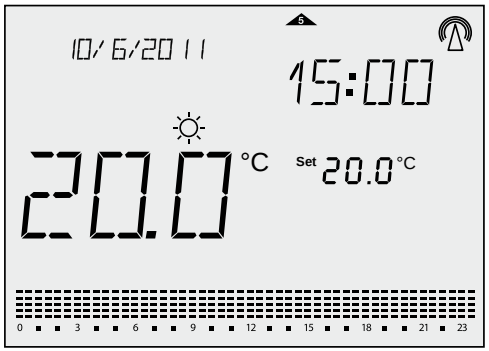
Bei raumtemperaturabhängiger Regelung können Sie mit der manuellen Override Funktion die aktuell eingestellte Temperatur bei geschlossenem Gehäuse erhöhen oder verringern. Mit den ⏶⏷ Tasten stellen Sie die

gewünschte Temperatur ein. Eine Bestätigung mit **OK** ist nicht erforderlich. Der eingestellte Wert gilt für die aktuelle Periode und bleibt bis zum nächsten Programmwechsel (Zeit und Temperatur) erhalten.
Um in den Automatikbetrieb zurück zu kehren drücken Sie die oberen △▽ Tasten für 3 Sekunden oder öffnen Sie den Gehäusedeckel und drücken Sie die **OK**-Taste.

Komfort-Temperatur-Modus

Symbol: ☼

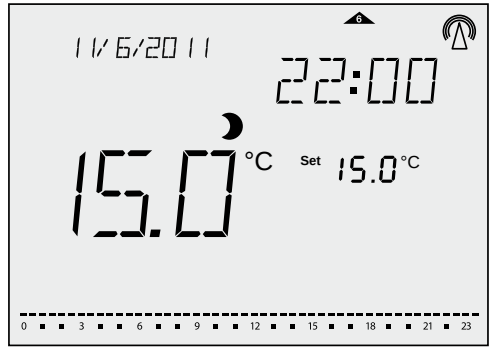
Im Komfort-Temperatur-Modus wird die Temperatur für den aktuellen Tag auf einen Wert eingestellt (werkseitige Voreinstellung: 20°C). Bei beginn des nächsten Tages (00:00 Uhr) kehr die Raumthermostatuhr in den Automatikbetrieb zurück. Die Komfort-Temperatur kann im Benutzer-Menü eingestellt werden.
Drücken Sie die **MODE**-Taste um den Komfort-Temperatur-Modus vorzeitig zu beenden.



Absenk-Temperatur-Modus

Symbol:

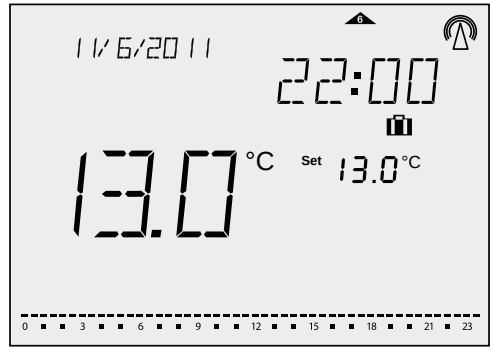
Im Absenk-Temperatur-Modus wird die Temperatur für den aktuellen Tag auf einen Wert eingestellt (werkseitige Voreinstellung: 15°C). Bei beginn des nächsten Tages (00:00 Uhr) kehr der Raumthermostat in den Automatikbetrieb zurück. Die Absenk-Temperatur kann im Benutzer-Menü eingestellt werden.
Drücken Sie die **MODE**-Taste um den Absenk-Temperatur-Modus vorzeitig zu beenden.



Ferien-Modus

Symbol:

Diese Funktion lässt eine eingestellte Temperatur (7 - 18°C) für eine bestimmte Zeitdauer eingeschaltet. Die einstellbare Zeitdauer beträgt 1 – 90 Tage. Der Starttag ist der aktuelle Tag.
Nach Ablauf der eingestellten Zeit kehrt das Gerät in den Automatikbetrieb zurück.



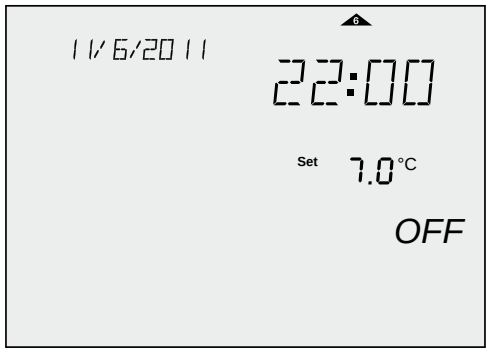
Mit den **+/–** Tasten können Sie Temperatur, Datum und Zeit einstellen. Drücken Sie die **OK**-Taste um die Auswahl zu bestätigen.
Drücken Sie die **MODE**-Taste um den Ferienmodus vorzeitig zu beenden.
Drücken Sie die **ESC**-Taste um die Einstellungen des Ferienprogramms zu ändern.

OFF-Modus

Symbol: *OFF*

Dieser Modus schaltet das System aus (Der Frostschutz wird beibehalten). Um den OFF-Modus zu aktivieren drücken Sie die **ESC/STANDBY**-Taste für 5 Sekunden. Um den OFF-Modus zu verlassen drücken Sie erneut die **ESC/STANDBY**-Taste für 5 Sekunden.

Der Standby-Modus kann nur im Automatikbetrieb eingestellt werden.



Externe Eingänge

Drücken Sie gleichzeitig die Tasten **OK**, **MODE** und **SET/INFO** für 3 Sekunden, bis das Installations-Menü (**INSTALLERS MENU**) angezeigt wird. Unter **EXTERNAL INPUT (EXT)** können Sie den externen Eingang konfigurieren.

Präsenzmelder (DIGI)

Wenn Sie einen Präsenzmelder an den externen Eingang anschließen, müssen Sie im Installations-Menü unter **EXTERNAL INPUT (EXT)** die Einstellung **MdC** (Präsenzmelder) wählen.
Die Anschlussart des Präsenzmelders muss ein Schließer-Kontakt sein.

Nach Anschluss des Präsenzmelders schaltet die Raumthermostatuhr in den Absenk-Temperatur-Modus (☽ + ⧗). Erkennt der Präsenzmelder Bewegungen im Raum, schaltet die Raumthermostatuhr für die nächsten 30 Minuten automatisch in den Komfort-Temperatur-Modus (☼ + ⧗).
Erkennt der Präsenzmelder weitere Bewegungen vor Ablauf der 30 Minuten, verlängert dich der Komfort-Temperatur-Modus um weitere 30 Minuten.
Werden innerhalb der 30 Minuten keine Bewegungen mehr erkannt, schaltet die Raumthermostatuhr zurück in den Absenk-Temperatur-Modus.

Fenster-/Türenkontakt (DIGI)

Wenn Sie einen Fenster-/Türenkontakt an den externen Eingang anschließen, müssen Sie im Installations-Menü unter **EXTERNAL INPUT (EXT)** die Einstellung **UdC** (Fenster-/Türenkontakt) wählen.
Die Anschlussart des Fenster-/Türenkontakts muss ein Schließer-Kontakt sein.

Nach Anschluss des Fenster-/Türenkontakts schaltet die Raumthermostatuhr in den Automatikbetrieb. Wenn Fenster/Türen länger als 2 Minuten geöffnet werden, schaltet die Raumthermostatuhr in den Absenk-Temperatur-Modus (◗ + ⧖). Werden die Fenster/Türen wieder geschlossen, kehrt die Raumthermostatuhr nach 2 Minuten in den Automatikbetrieb zurück.

Telefonfernschalter (DIGI)

Wenn Sie einen Telefonfernschalter an den externen Eingang anschließen, müssen Sie im Installations-Menü unter **EXTERNAL INPUT (EXT)** die Einstellung **tLF** (Telefon) wählen.
Wählen Sie anschließend unter **EXTERNAL PHONE MODE (EPM)** die Einstellung **rdC** für den Absenk-Temperatur-Modus oder **CoM** für Komfort-Temperatur-Modus.
Die Anschlussart des Telefonfernschalters muss ein Schließer-Kontakt sein.

Nach Anschluss des Telefonfernschalters schaltet die Raumthermostatuhr in den Automatikbetrieb. Wenn der Telefonfernschalter aktiviert wird, schaltet die Raumthermostatuhr je nach Einstellung in

den Komfort- oder Absenk-Temperatur-Modus (☼ + ☎ / ◗ + ☎). Dieser Betriebsmodus wir so lange ausgeführt bis der Telefonfernschalter wieder deaktiviert wird oder Sie die **ESC**-Taste drücken. Die Raumthermostatuhr kehrt anschließend in den Automatikbetrieb zurück.

Außentemperatursensor (OTS)

Eine außentemperaturabhängige Regelung (OTC) ermöglicht es dem Boiler bei Änderungen der Außentemperatur schnell zu reagieren, um so die Vorlauftemperatur anzupassen und eine konstante Raumtemperatur zu gewährleisten.

Wenn Sie einen Außentemperatursensor (NTC 100 kΩ) an den externen Eingang der Raumthermostatuhr anschließen, müssen Sie im Installations-Menü unter **OUTDOOR TEMPERATURE SENSOR (OTS)** die Einstellung **ON** wählen.

Die außentemperaturabhängige Regelung müssen Sie im Installations-Menü unter **OTC REGULATION (OTC)** aktivieren (**ON**). Wenn Sie die außentemperaturabhängige Regelung nicht aktivieren (**OFF**), wird nur die aktuelle Außentemperatur im Display angezeigt.

Der Außentemperaturfühler kann auch direkt mit dem Boiler verbunden werden. Eine außentemperaturabhängige Regelung ist auch hier möglich, die aktuelle Außentemperatur wird aber nicht auf dem Display der Raumthermostatuhr angezeigt.

Benutzer-Menü

Drücken Sie gleichzeitig die Tasten **MODE** und **SET/INFO** für 3 Sekunden, bis das Benutzer-Menü (**USER MENU**) angeszeigt wird. Um zum nächsten Menüpunkt zu gelangen drücken Sie die ▷-Taste; um zum vorherigen Menüpunkt zurück zu gelangen drücken Sie die ◁-Taste.
Benutzen Sie die **+/–** Tasten um Einstellungen zu ändern und bestätigen Sie diese mit **OK**.

Folgende Einstellungen sind möglich:

Displaybeleuchtung (D_t)	Einschalten der Displaybeleuchtung (5, 10 oder 15 Sekunden)
Displayhelligkeit (D_B)	Einstellen der Displayhelligkeit (0 = AUS, ..., 4 = 100%)
Displaykontrast (D_C)	Einstellen des Displaykontrasts (0 = min., ..., 15 = max.)
Komfort-Temperatur (COT)	Einstellen der Komfort-Temperatur (15°C bis 24°C)
Absenk-Temperatur (RET)	Einstellen der Absenk-Temperatur (7°C bis 15°C)
Offset (OFS)	Möglichkeit um die gemessene Temperatur einzustellen/modifizieren (-5°C...+5°C)
Sommer-/Winterzeit (SWT)	aktivieren/deaktivieren des automatischen Wechsels
Zeitformat (TMF)	12h oder 24h Format einstellbar
Werkseinstellungen (DFL)	Wiederherstellen der Werkseinstellungen

Installations-Menü

Drücken Sie gleichzeitig die Tasten **OK**, **MODE** und **SET/INFO** für 3 Sekunden, bis das Installations-Menü (**INSTALLERS MENU**) angezeigt wird. Um zum nächsten Menüpunkt zu gelangen drücken Sie die ▷-Taste; um zum vorherigen Menüpunkt zurück zu gelangen drücken Sie die ◁-Taste.
Benutzen Sie die **+/–** Tasten um Einstellungen zu ändern und bestätigen Sie diese mit **OK**.

Folgende Einstellungen sind möglich:

Maximal Temperatur (HIT)	Einstellen der maximal Temperatur für Programme (Zentralheizung) max. Wert: +32°C, voreingestellter Wert: +32°C
Minimal Temperatur (LOT)	Einstellen der minimal Temperatur für Programme (Zentralheizung) min. Wert: +7°C, voreingestellter Wert: +15°C
Frostschutz (FRT)	Einstellen der Frostschutz-Temperatur von +3°C bis +7°C voreingestellter Wert: 5°C
DHW Temperatur (HWT)	Einstellen der maximal Temperatur für Programme (Brauchwasser) min. Wert: +20°C, max. Wert: +85°C, voreingestellter Wert: +60°C
DHW Zeit (HWt)	Einstellen der Zeit für Brauchwasseraufbereitung – ON (EIN) = ganztägige Brauchwasseraufbereitung – OFF (AUS) = keine Brauchwasseraufbereitung – tIM (timed) = programmabhängige Brauchwasseraufbereitung

Legionellenfunktion (ALG)	Einstellen der Legionellenfunktion: ON (EIN) oder OFF (AUS) Um die Entwicklung von Krankheitskeimen im Brauchwasserspeicher während längerer Stillstandsperioden zu verhindern, wird das Brauchwasser einmal wöchentlich (Mittwoch, 2:00 Uhr) für eine Stunde auf 70°C aufgeheizt. (Nur verfügbar wenn ein separater Brauchwasserspeicher vorhanden ist.)
Regulation (REG)	Auswahl zwischen PID- und 2-Punkt-Regulierung (voreingestellt: PID)
Systemreaktion (S_R)	Einstellen der Heizsystemreaktion – Schnell (FSt): 12 Zyklen pro Stunde (voreingestellt) – Mittel (Med): 6 Zyklen pro Stunde – Langsam (Slo): 3 Zyklen pro Stunde (nur verfügbar wenn die Regulation (REG) auf PID gestellt ist)
Differential (DIF)	Einstellen des Differentialwertes von 0.1°C bis 0.9°C (nur verfügbar wenn Regulation (REG) auf 2P gestellt ist)
Optimum-Start (OPS)	Einstellen des Optimum-Starts: ON (EIN) oder OFF (AUS) (die Temperatur wird zur eingestellten Zeit erreicht.)

Wärme-Gradient (THL)	Einstellen der Geschwindigkeit/Zeit um die gewünschte Raumtemperatur zu erreichen: 1°C/Stunde, 2°C/Stunde oder 4°C/Stunde (nur verfügbar wenn Optimum-Start (OPS) auf ON gestellt ist)
OTC Regulation (OTC)	Einstellen der OTC Regulation auf ON (EIN) oder OFF (AUS)
Installations Typ (ITC)	Einstellen des Heiztyps: 1, 2, 3 oder 4 1 = 90/70 System, 2 = 70/50 System (voreingestellt), 3 = 50/35 System, 4 = 40/30 System (nur verfügbar wenn die OTC Regulation (OTC) auf ON gestellt ist)
Externer Eingang (EXT)	Einstellen des externen Eingangs: OFF (AUS), tLF (Telefon), UdC (Fenster-/Türenkontakt) oder MdC (Präsenzmelder)
Externer Telefonmodus (EPM)	Einstellen des externen Telefonmodus: rdc = Absenk-Temperatur-Modus oder CoM = Komfort-Temperatur-Modus (nur verfügbar wenn der externe Eingang auf tLF gestellt ist)
Außentemperatursensor (OTS)	Einstellen des Außentemperatursensors: ON (EIN) oder OFF (AUS)
Tastensperre (LOK)	Aktivierung der Tastensperre gegen unerlaubten Zugriff. Um die Tastensperre zu deaktivieren drücken Sie gleichzeitig die **MODE** und **ESC/STANDBY**-Taste für 3 Sekunden.
Betriebsstunden (OPT)	Anzeige der Betriebsdauer des Raumthermostaten (max. 99.999 Stunden).

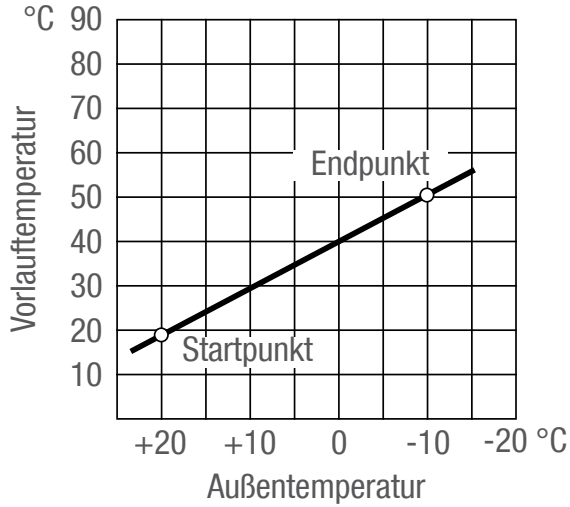
Wartung (MAN) Sie können Einstellen ob und nach wie vielen Monaten eine Wartungs-Meldung angezeigt werden soll – 6M (6 Monate), 12M (12 Monate), 18M (18 Monate), 24M (24 Monate), rST (Reset) oder OFF (AUS). Nach Ablauf der eingestellten Zeit erscheint eine Meldung im Display.

Batterie-Zustand (BAT) Der Ladezustand der Batterie wird im Display angezeigt.

Außentemperaturabhängige Regelung (OTC)

Bei außentemperaturabhängiger Regelung werden Start- und Endpunkt der Heizkurve eingestellt.
Diese können Sie im Installations-Menü unter **INST_TYPE** einstellen.

Für eine vorübergehende Temperaturänderung kann die Heizkurve mit den Tasten △▽ verschoben werden, siehe manueller Override Seite 39.



Heizart

Heizungstyp	Einstellbereich	Vorlauf-/Rücklauftemperatur
Radiatorheizung	Hochtemperatur	+90°C / +70°C
Radiatorheizung	Mitteltemperatur	+70°C / +50°C
Radiatorheizung	Tieftemperatur	+50°C / +35°C
Fußbodenheizung	Tiefsttemperatur	+40°C / +30°C

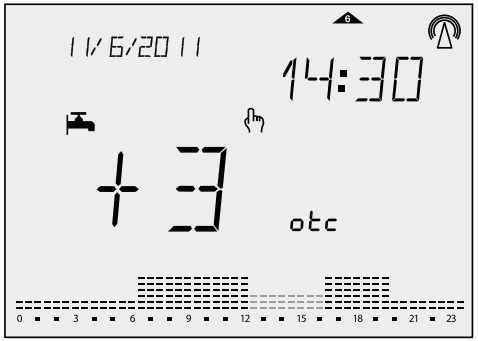
Einstellung des Heizungstyps

Heizungstyp	Menu-auswahl*	HK-Startpunkt	HK-Endpunkt	P-Verschiebung Absenkung
90/70 System	1	+30°C	+85°C	-15°C
70/50 System	2	+25°C	+75°C	-15°C
50/35 System	3	+25°C	+55°C	-15°C
40/30 System	4	+25°C	+45°C	-15°C

*) Die Auswahl des Heizungstyps legen Sie im Installations-Menü unter **INST_TYPE** fest.
Wählen Sie den passenden Heizungstyp für Ihr System.

Manueller Override (bei außentemperaturabhängiger Regelung)

Symbol: + **otc**



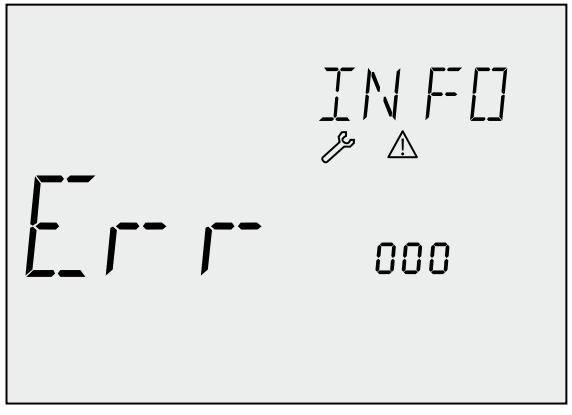
Bei außentemperaturabhängiger Regelung können Sie mit der manuellen Override Funktion die aktuelle Heizkurve parallel verschieben, um die Raumtemperatur zu erhöhen oder verringern. Mit den △▽ Tasten stellen Sie den gewünschten Sollwert von -5 bis +5 ein, d. h. eine Heizkurvenverschiebung um max. 5 K. Eine Bestätigung mit **OK** ist nicht erforderlich. Der eingestellte Wert gilt für die aktuelle Periode und bleibt bis zum nächsten Programmwechsel (Zeit und Temperatur) erhalten.

Um in den Automatikbetrieb zurück zu kehren drücken Sie die oberen △▽ Tasten für 3 Sekunden oder öffnen Sie den Gehäusedeckel und drücken Sie die **OK**-Taste.

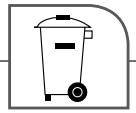
Fehlermeldungen

Sobald ein Fehler auftritt erscheint das Warnsymbol ⚠ auf dem Display.

▶ Drücken Sie die **SET/INFO**-Taste um den Fehlercode zu sehen.



Fehlercode	Beschreibung
000	Fehlerhafte Verbindung – Keine Kommunikation mit Boiler
001	Fehler – Boiler gesperrt
002	zu niedriger Wasserdruck (Zentralheizung)
003	Fehler Gas/Flamme (Boiler)
004	Fehler Luftdruck (Boiler)
005	Wasser zu heiß (Zentralheizung)
006	Diagnose/Service Anzeige
007	Keine Verbindung zum Außentemperaturfühler



Entsorgung / Recycling

Das Verpackungsmaterial ist nach den gesetzlichen Bestimmungen und Verordnungen sachgerecht zu entsorgen.

Für die Entsorgung defekter Systemkomponenten oder des Systems nach der Produktlebensdauer beachten Sie bitte folgende Hinweise:

- Entsorgen Sie fachgerecht, d.h. getrennt nach Materialgruppen der zu entsorgenden Teile.
- Werfen Sie keinesfalls Elektro- oder Elektronikschrott einfach in den Müll. Nutzen Sie entsprechende Annahmestellen.
- Entsorgen Sie grundsätzlich so umweltverträglich, wie es dem Stand der Umweltschutz-, Wiederaufbereitungs- und Entsorgungstechnik entspricht.

eLearning by GRÄSSLIN

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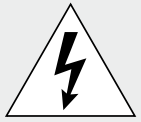
Safety Instructions



WARNING

Danger! Risk of electric shock!

▷ Connection and mounting must be performed by a professional electrician!

- To avoid injuries, the device must be connected and mounted by a skilled electrician only!
- Please observe the national regulations and safety instructions.
- Interventions and changes to the device will invalidate the warranty and guaranty rights.

Read and observe these instructions to guarantee a perfect function of the device and a safe operation.

Information about the device

Description of the device

Digital room thermostat clock with modulating burner control, which allows control and programming of service water and heating applications by transmitting data between the room thermostat clock and the water heater.

The room thermostat clock has different operating modes and additional inputs for connecting accessories such as outdoor temperature sensor, motion detector or window/door contact.
In addition, the room thermostat can be controlled by phone.

Designated use

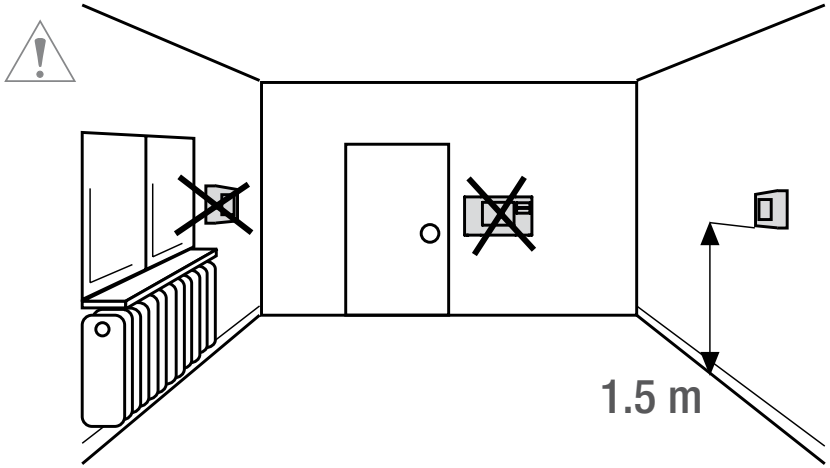
- Control of OpenTherm water heater and burner.
- Surface mounted device which is mounted on walls.
- Suitable for installation on flush-mounted box.
- Suitable for use in dry rooms only!

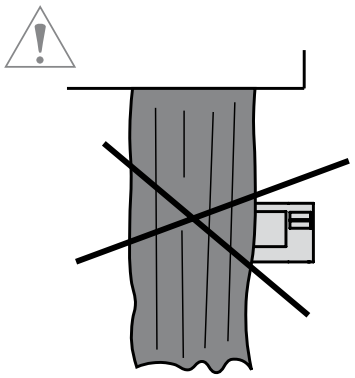
Technical data

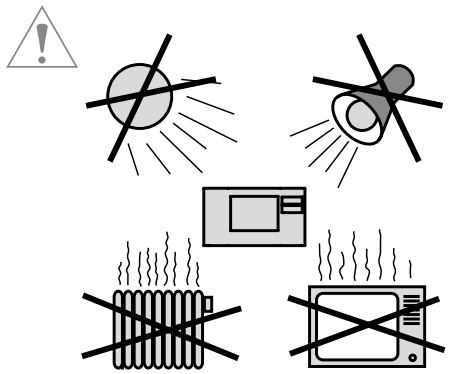
Dimensions H x W x D (mm)	87 x 154 x 27
Weight (g)	200
Power supply	Water heater OT bus (optionally: batteries 1.5 V AA LR6)
Service life of battery	2 years (depending on frequency of switching)
Power reserve	> 1h (without optional batteries)
Connection type	OT bus – screw terminals / 1.5 mm^2 external inputs – plug-in terminals / 1.0 mm^2
Resolution of the room temperature display	0.1°C
Temperature setting range	+5°C... + 32°C
Time display	24 h or 12 h AM/PM format
Resolution of the time setting	
– daytime display	1 minute
– program	30 minutes
Temperature controlling accuracy	± 0.5°C (20 K/hour)

Heat measurement (heating system)	3 K/hour
Room temperature display	+0°C... + 50°C
Programming	Weekly program containing up to 48 time and temperature programs
Pre-programmed programs	4 + 1 user-defined
Protection class	II
Protection type	IP40
Display lighting	Yes / light-blue
External input	– analog - no voltage – digital - sensor NTC 100 kΩ
Manual override	Yes
Regulation	Modulation
Colors: white / anthracite / silver	9010 / 7016 / 9006

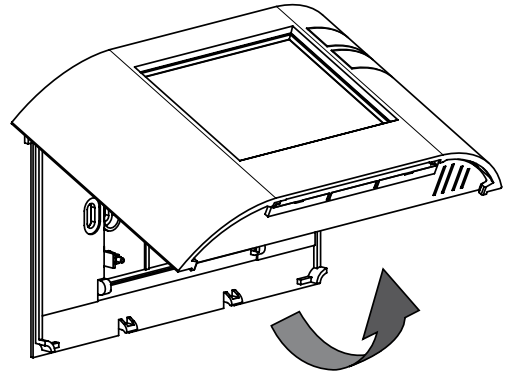
Installation and mounting



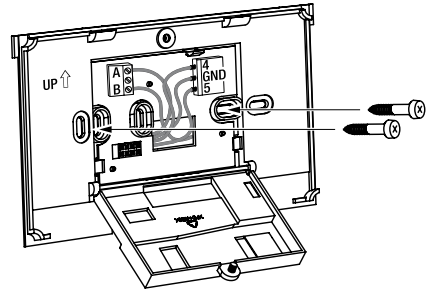




1 Opening the device

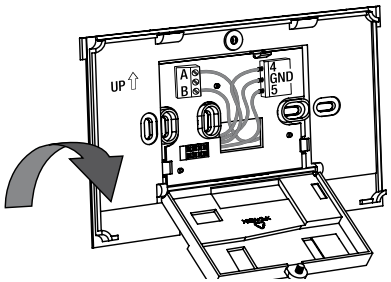


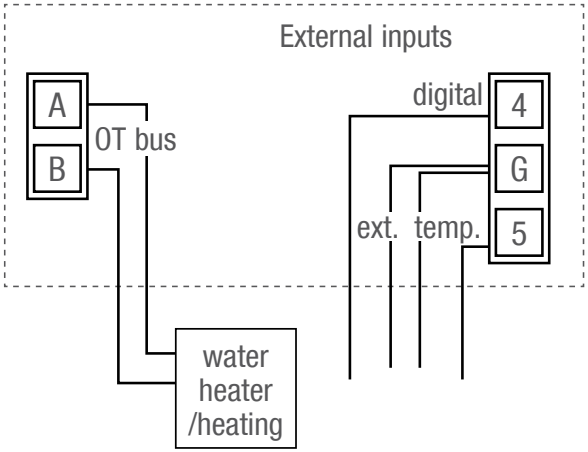
2 Wall mounting



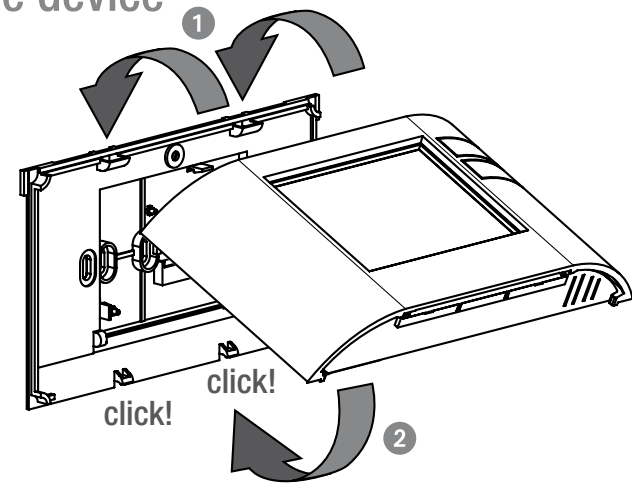
3 Connection / Wiring diagram

⚠ Connection and mounting must be performed by a professional electrician!

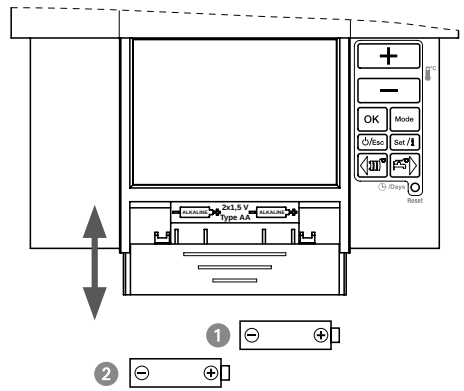




4 Closing the device



5 Inserting batteries (optional)



Use
2 x 1.5 V AA LR6

(For backlight, if the water heater does not support smart power.)

EN

Operation and configuration

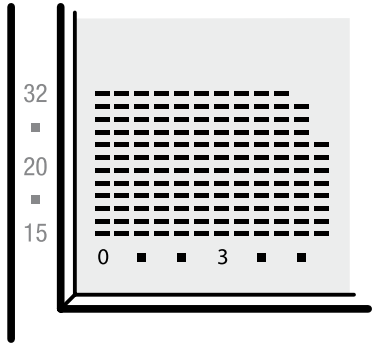
The device provides two ways of regulating the room temperature:

- **Room-temperature-dependent regulation** without outdoor temperature sensor (PID adjustable, 2-point regulation or optimum start). Integrated into the control device is a room temperature sensor, which will take into account heat sources, such as solar radiation or stoves.
- **Regulation depending on outdoor temperature** including outdoor temperature sensor (OTC – outdoor temperature compensation)

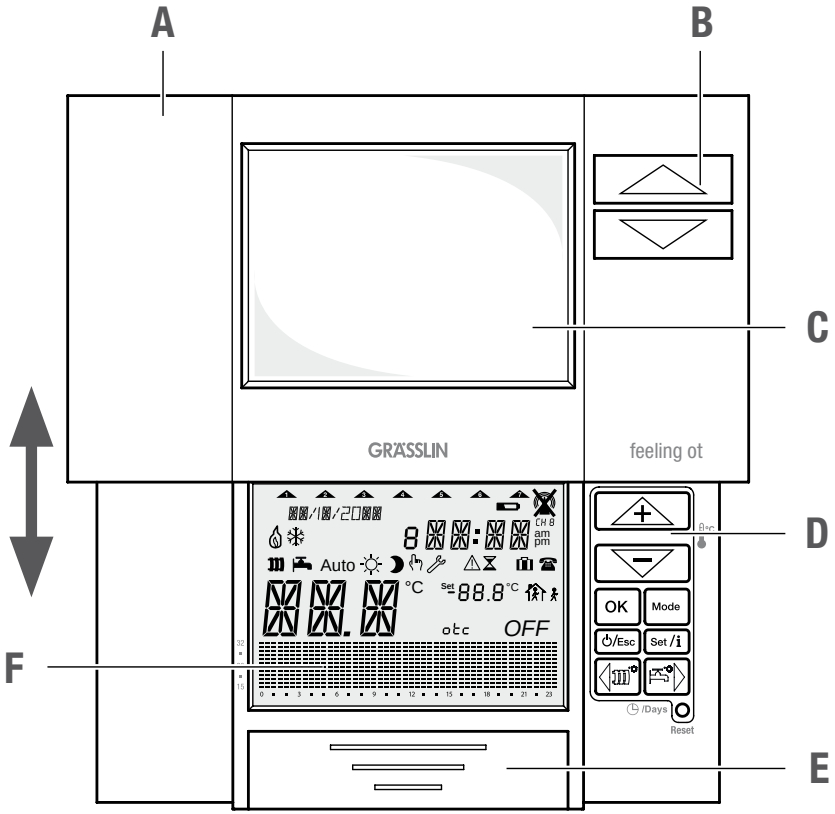
  See chapter External Inputs; outdoor temperature sensor"

Operating information

- Flashing texts signal that an entry is required. If you do not enter anything within two minutes, the device switches back to automatic operation.
- Confirm all entries by pressing **OK**.
- Saved settings are stored in the data memory.
- The histogram shows the programmed temperature profile
  7 – 15°C = shown as one segment
  16 – 26°C = one segment represents 1°C
  more than 26°C = shown as 12 segments



Description of the assembly groups



A Sliding device cover

B Keys for manual override function (override keys)

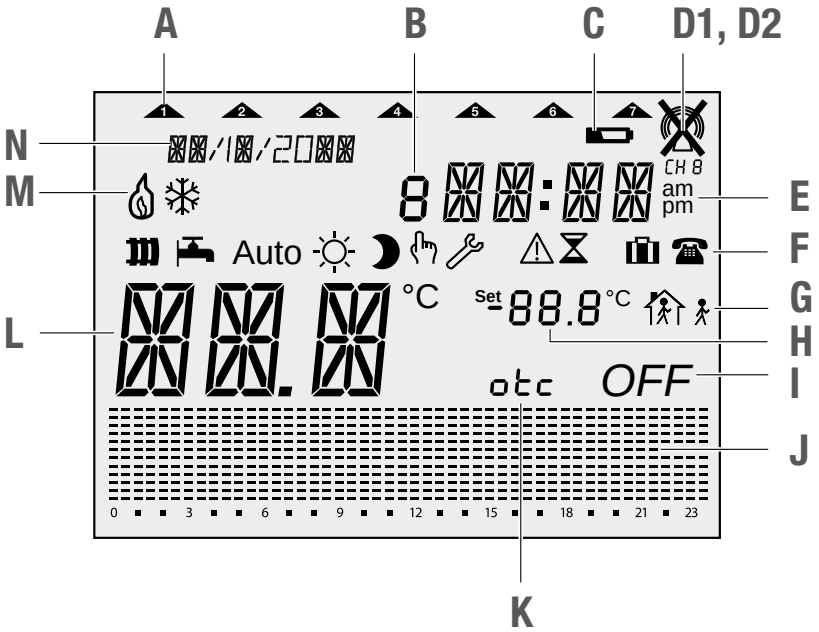
C Window

D Keypad

E Battery compartment

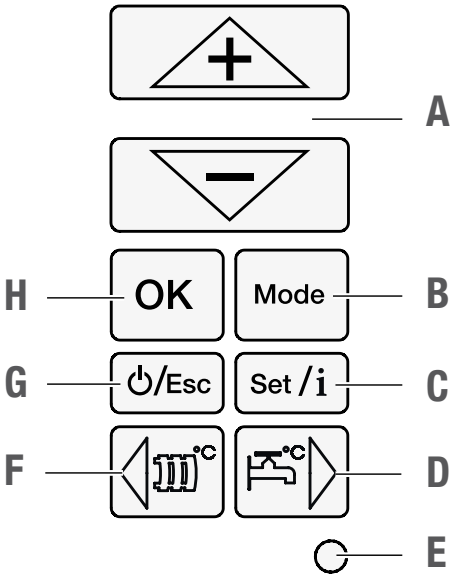
F Display

Display



A Current weekday
(1 = Monday, 2 = Tuesday, ...)
B Operating hours
C Battery status
D1 Antenna symbol: Communication ON; flashing during data transfer
D2 Antenna symbol crossed out: Communication problem
E Time, 12h or 24h format
F Operating mode
G Symbol for room /outdoor temperature
H Set temperature
I OFF mode
J Time/Temperature histogram
K Outdoor temperature compensation (OTC) is active
L Current temperature
M Operating mode status display
N Current date

Function keys



* Press **RESET** key when putting the room thermostat clock back on the mounting plate (only if device is working without batteries).

A **+/–** keys to set temperature, days, hours and events.

B **MODE** key to select the available operating modes.

C **INFO** key for the inquiry of important settings.
SET key for settings after start-up
(press the key and hold it down for 5 seconds).

D **DHW** key (▷ key) for displaying and controlling the domestic hot water temperature

E **RESET** key to return to the default settings. *

F **CH** key (◁ key) for displaying the actual/nominal temperature of central heating.

G **ESC/STANDBY** key: ON/OFF key, to go one step in the menu.
To return to the main menu/automatic mode, press key > 3 seconds.
To go to standby mode, press the key > 5 seconds.

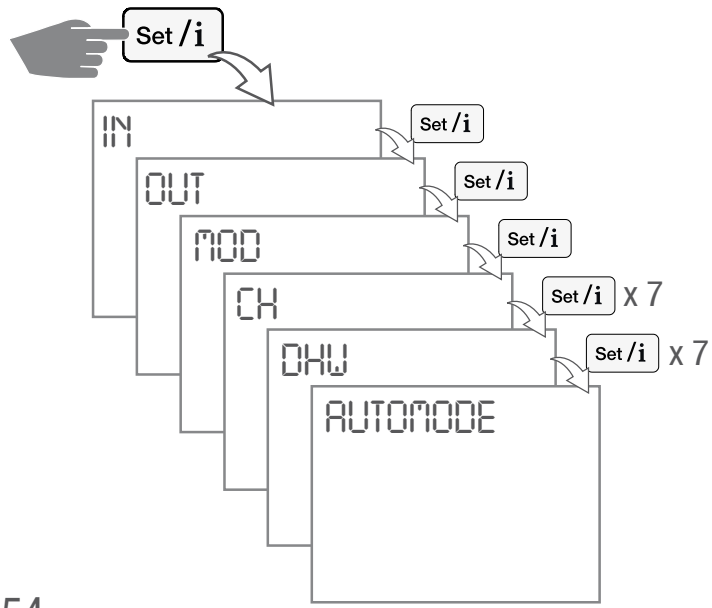
H **OK** key to confirm entries and go one step forward.

Function keys – Direct access

Info Menu

Here you can retrieve the following information:

- Current room temperature (IN)
- Current outdoor temperature (OUT)
- Modulation level in % (MOD)
- Programs – central heating (CH)
- Programs – domestic hot water (DHW)

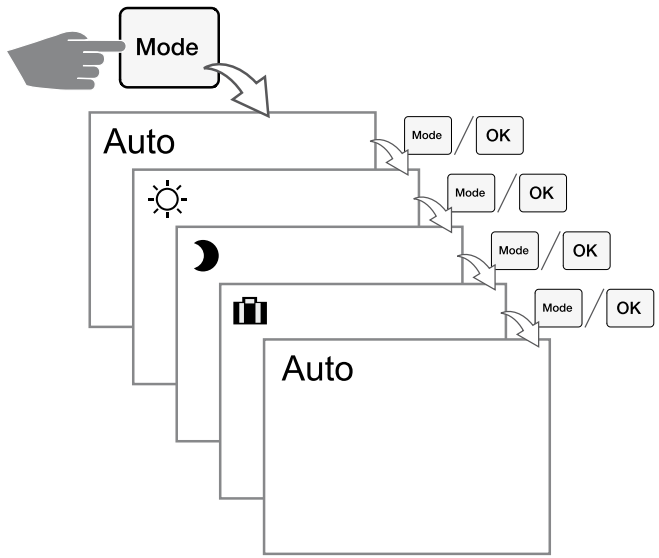


Operating mode

Here you can select the following operating modes:

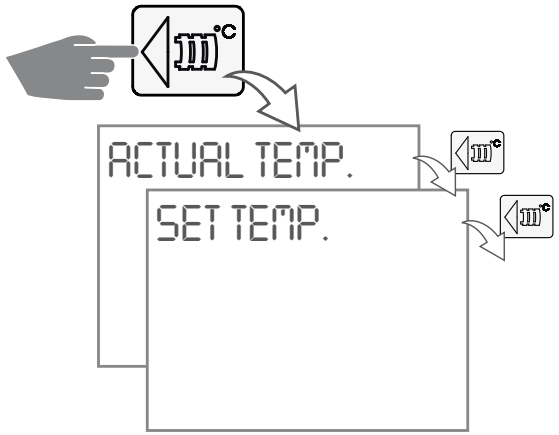
- Automatic mode (Auto)
- Comfort temperature mode (☼)
- Reduced temperature mode (◗)
- Vacation mode (🧳)

▶ Press **OK** to confirm the selection.



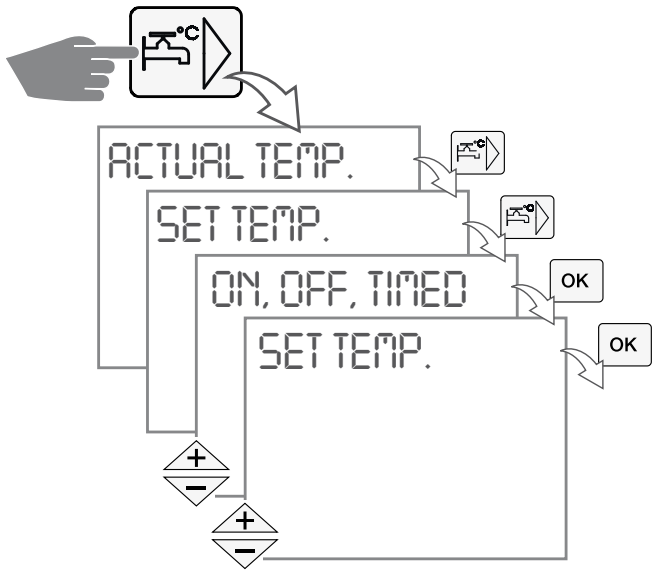
Temperature menu – central heating

Here you can view the actual (ACt) and set (SEt) heating temperatures.



Temperature menu – domestic hot water

Here you can control and set the domestic hot water temperature.

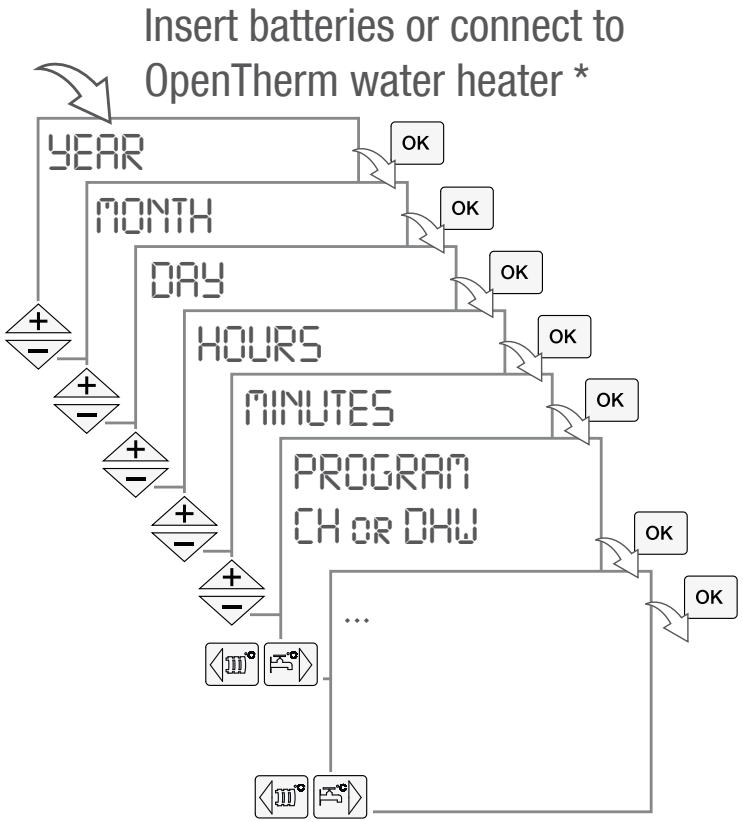


1. Press the **DHW** key
   ▷ Displays the current water temperature
   ▷ Displays the set water temperature
2. Select when domestic hot water is required:
   ON (ON) = all-day domestic water preparation
   OFF (OFF) = no hot water preparation
   tIM (timed) = program-dependent hot water preparation,
   see chapter “New program – domestic hot water (DHW)”, page 62.
3. Confirm by pressing **OK**.
4. Select the desired domestic hot water temperature
   ➔**OK**

Start-up

Set date and time

Sequence for setting the date and time during start-up.
15/06/2011 appears as default setting.



* If no batteries have been inserted, it may take up to 45 seconds until communication between the room thermostat clock and the water heater is initiated via the OT bus.

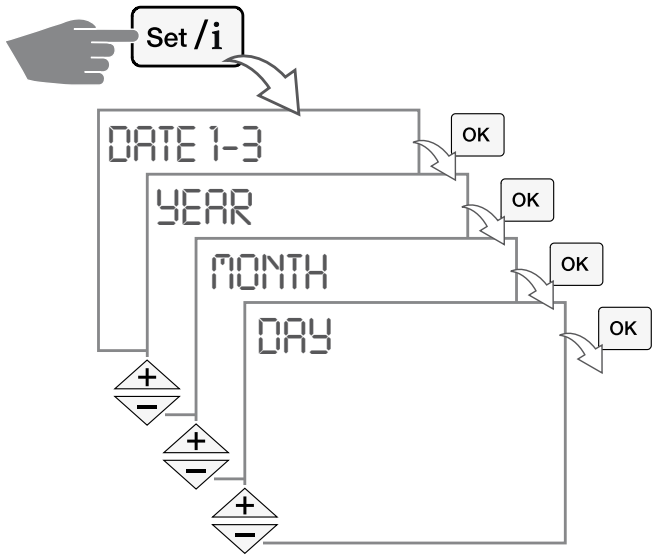
- Use the **+/–** keys to set year, month, day, hour and minute.
- Press **OK** to confirm the selection.
- For the detailed procedure of creating a new program, see chapter "New program – central heating (CH)" or "New program – domestic hot water (DHW)".

Settings

Press the **SET/INFO** key for 5 seconds to go to the "Settings" menu. Here you can set the date, time and programs for central heating and domestic hot water.

The **+/–** key can be used to select between:
– 1-3 = Setting the date
– 2-3 = Setting the time
– 3-3 = Setting the programs
(central heating or domestic hot water)

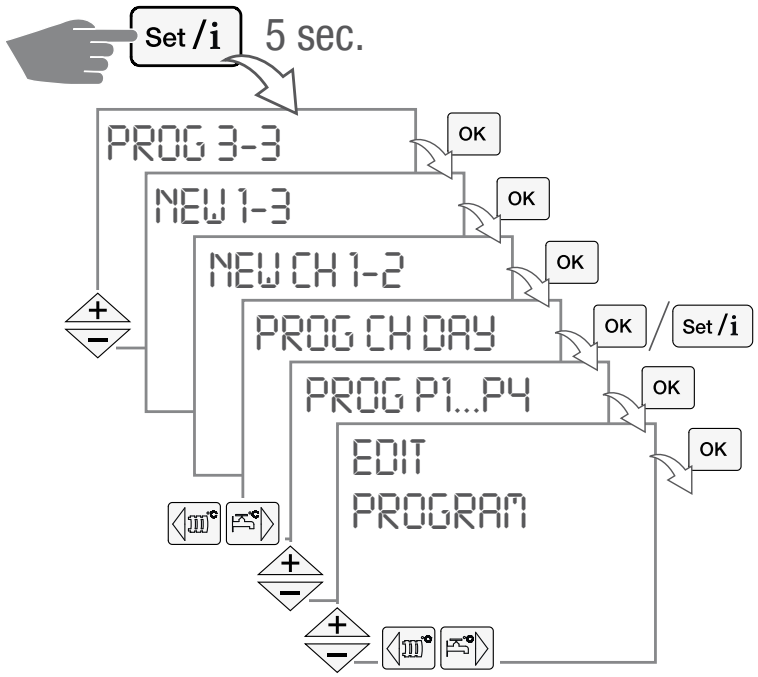
Set date and time



- Use the **+/–** keys to set year, month, day, hour and minute.
- Press **OK** to confirm the selection.

- The time is set in the same way as the date.

New program – central heating (CH)



1. Press the **SET/INFO** key for 5 seconds.
2. Select **PROG 3-3** ➔ **OK**
3. Select **NEW 1-3** ➔ **OK**
4. Select **NEW CH 1-2** ➔ **OK**
5. Select desired days (◁ or ▷ key)

Select between:

- Complete week: 1-7
- Working week: 1-5
- Weekend: 6-7
- Single days: 1, 2, 3, 4, 5, 6, 7

▶ Confirm day block by pressing **OK** .

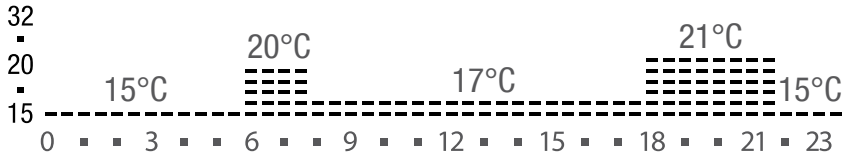
▶ Select single days by pressing the **SET/INFO** key Then confirm single day block by pressing **OK** .

Select program

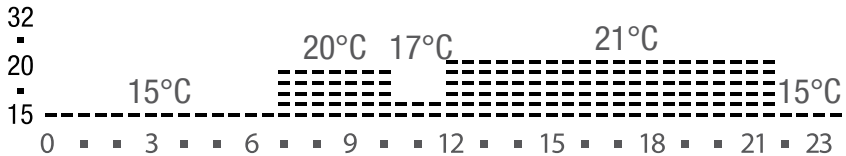
Each weekday or day block must be assigned a program **P1, P2, P3, P4** (predefined) or **Pd** (user-defined).

6. Select desired program **+/–** and confirm by pressing **OK**.

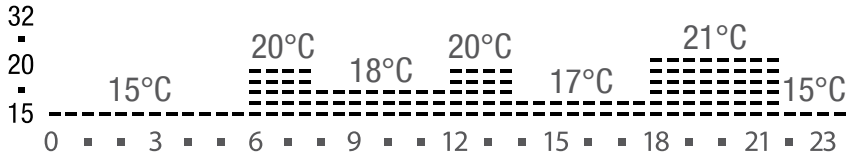
P1



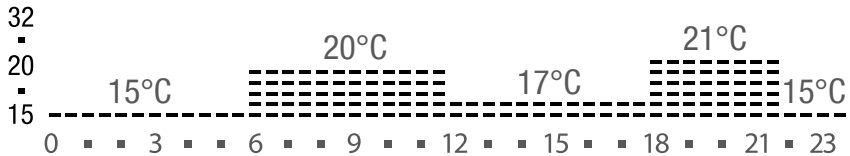
P2



P3



P4



Pd

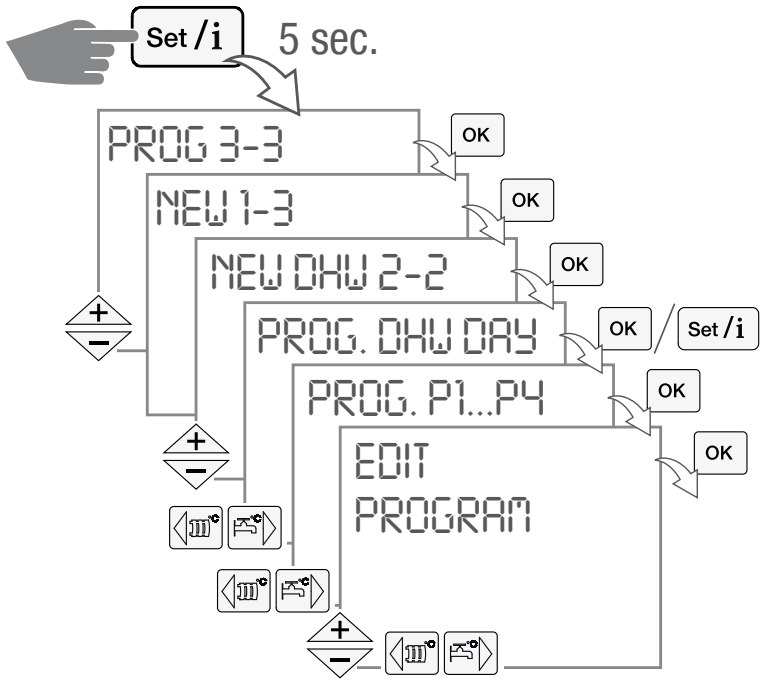
User-defined program.

If desired, you can modify the predefined programs P1-P4 or create your own program under Pd.

Use the **+/–** keys to increase/decrease the temperature stepwise by 0.5°C.
Use the ◁ or ▷ key to go forward/ backward by 30 minutes each. The previously set temperature will be applied.

7. Press **OK** to save the settings.

New program – domestic hot water (DHW)



1. Press the **SET/INFO** key for 5 seconds.
2. Select **PROG 3-3 ➔ OK**
3. Select **NEW 1-3 ➔ OK**
4. Select **NEW DHW 2-2 ➔ OK**
5. Select desired days (◁ or ▷ key)

Select between:

- Complete week: 1-7
- Working week: 1-5
- Weekend: 6-7
- Single days: 1, 2, 3, 4, 5, 6, 7

▶ Confirm day block by pressing **OK**.

▶ Select single days by pressing the **SET/INFO** key Then confirm single day block by pressing **OK**.

Select program

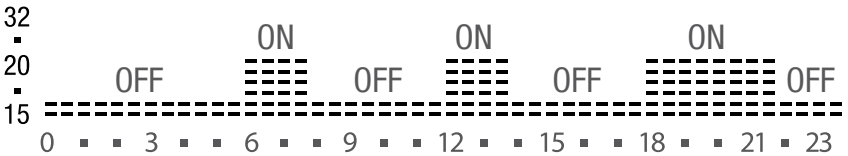
Each weekday or day block must be assigned a program **P1, P2, P3, P4** (predefined) or **Pd** (user-defined).

6. Select desired program **+/–** and confirm by pressing **OK**.

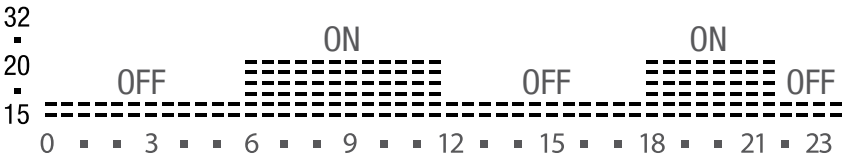
P1

P2

P3



P4



Pd

User-defined program.

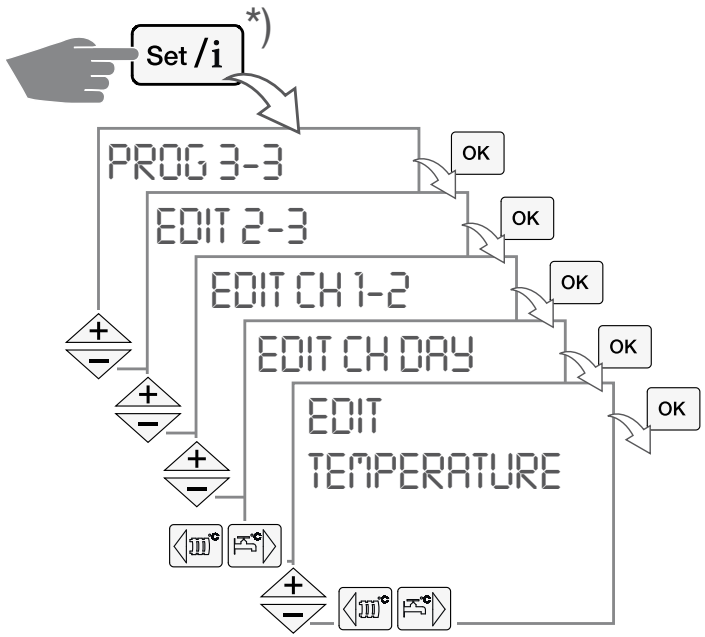
If desired, you can modify the predefined programs P1-P4 or create your own program under Pd.

Use the **+/–** keys to switch the domestic hot water preparation to ON or OFF. Use the ◁ or ▷ key to go forward/ backward by 30 minutes each. The previously set value (ON/OFF) will be applied.

7. Press **OK** to save the settings.

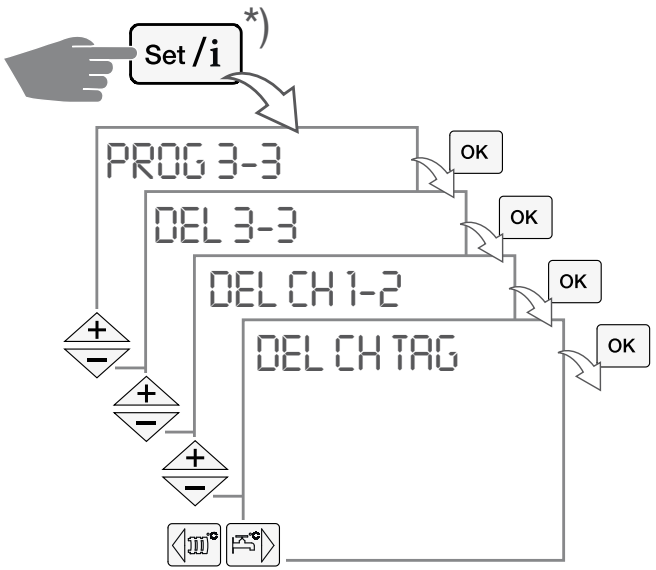
To activate the program-dependent domestic hot water preparation, you have to select the setting **tIM** in the "Domestic hot water" temperature menu, see page 56.

Edit program



*) Press the key for 5 seconds.

Delete program



*) Press the key for 5 seconds.

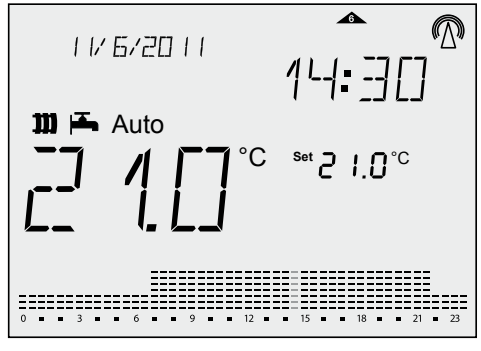
Operating modes

Keep pressing the **MODE** key until the desired operating mode appears and confirm by pressing **OK.**
Press the **MODE** or **ESC** key for 5 seconds to quit the respective operating mode prematurely. After that, the room thermostat clock returns to Automatic mode.

Automatic mode

Symbol: Auto (with room-temperature-dependent control)
Auto + **otc** (with outdoor-temperature-dependent control)

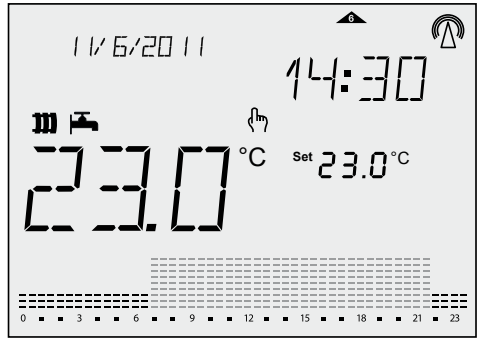
After each programming, the device returns to Automatic mode. In this mode, the predefined or user-defined programs are executed.



Manual Override (with room-temperature-dependent control)

Symbol:

With room-temperature-dependent control, you can use the manual override function to increase or decrease the currently set temperature with the housing closed. Press △▽ keys to set the desired temperature. A confirmation by pressing **OK** is not required. The set value is valid for

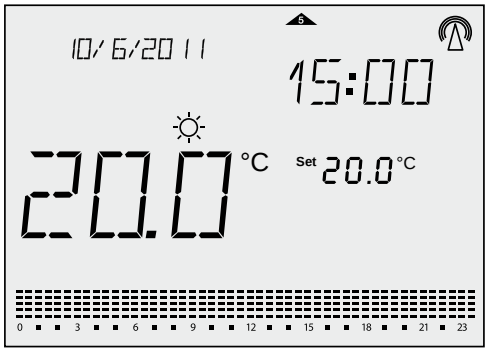


the current period and is maintained until the next program change (time and temperature).
To return to Automatic mode, press the upper △▽ keys for 3 seconds or open the housing cover and press the **OK** key.

Comfort temperature mode

Symbol: ☼

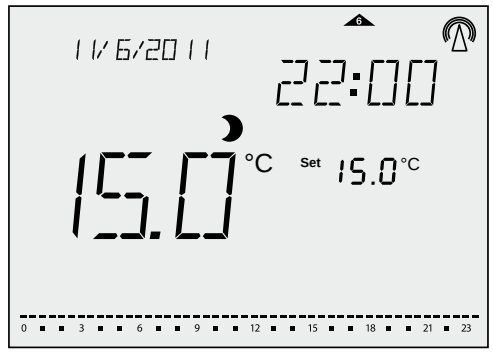
In the Comfort temperature mode, the temperature for the current day is set to a value (default setting: 20°C). At the beginning of the next day (00:00 o'clock), the room thermostat clock will return to the Automatic mode. The comfort temperature can be set in the user menu.
Press the **MODE** key to quit the Comfort temperature mode prematurely.



Reduced temperature mode

Symbol:

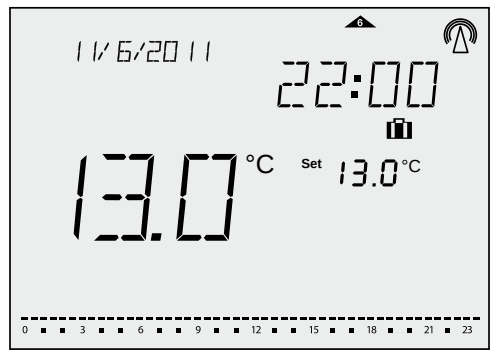
In the Reduced temperature mode, the temperature for the current day is set to a value (default setting: 15°C). At the beginning of the next day (00:00 o'clock), the room thermostat will return to the Automatic mode. The reduced temperature can be set in the user menu.
Press the **MODE** key to quit the Reduced temperature mode prematurely.



Vacation mode

Symbol:

This function leaves a set temperature (7 - 18°C) switched on for a certain period of time. This period of time can be set to between 1 and 90 days. The starting day is the current day.
After the set time has expired, the device returns to the Automatic mode.



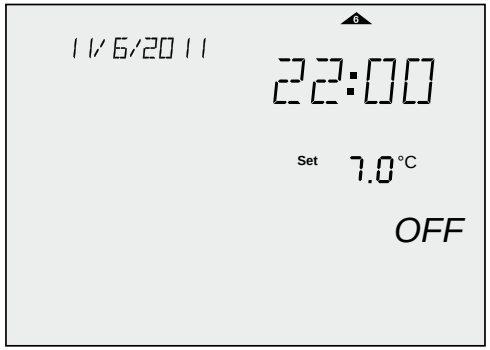
Use the **+/–** keys to set the temperature, date and time. Press the **OK** key, to confirm the selection.
Press the **MODE** key to quit the Vacation mode prematurely.
Press the **ESC** key to change the settings of the vacation program.

OFF mode

Symbol: *OFF*

This mode switches the system off (the frost protection is retained). To activate the OFF mode, press the **ESC/STANDBY** key for 5 seconds. To leave the OFF mode, press the **ESC/STANDBY** key again for 5 seconds.

The Standby mode can only be set in Automatic mode.



External inputs

Press the **OK**, **MODE** and **SET/INFO** keys simultaneously for 3 seconds until the installation menu (**INSTALLERS MENU**) is displayed. Under **EXTERNAL INPUT (EXT)**, you can configure the external input.

Motion detector (DIGI)

If you connect a motion detector to the external input, in the installation menu under **EXTERNAL INPUT (EXT)** you have to select the setting **MdC** (motion detector).
The connection type of the motion detector must be an NO contact.

After connection of the motion detector, the room thermostat clock will switch to the Reduced temperature mode (◗ + ⧗). If the motion detector detects movement in the room, the room thermostat clock will automatically switch to the Comfort temperature mode for the next 30 minutes (☼ + ⧗).
If the motion detector detects further movement, before the 30 minutes have expired, the Comfort temperature mode will be extended by another 30 minutes.
If no more movement is detected within the 30 minutes, the room thermostat clock will switch back to the Reduced temperature mode.

Window/Door contact (DIGI)

If you connect a window/door contact to the external input, in the installation menu under **EXTERNAL INPUT (EXT)** you have to select the setting **UdC** (window/door contact).
The connection type of the window/door contact must be an NO contact.

After connection of the window/door contact, the room thermostat clock will switch to the Automatic mode. If windows/doors are opened for more than 2 minutes, the room thermostat clock will switch to the Reduced temperature mode (◗ + ⧖). When the windows/doors are closed again, the room thermostat clock will return to the automatic mode after 2 minutes.

Telephone remote switch (DIGI)

If you connect a telephone remote switch to the external input, in the installation menu under **EXTERNAL INPUT (EXT)** you have to select the setting **tLF** (telephone).
Next, under **EXTERNAL PHONE MODE (EPM)** you select the setting **rdC** for the Reduced temperature mode or **CoM** for the Comfort temperature mode.
The connection type of the telephone remote switch must be an NO contact.

After connection of the telephone remote switch, the room thermostat clock will switch to the Automatic mode. Upon activating the telephone remote switch, the room thermostat clock will switch, depending on the setting, to the Comfort or Reduced temperature mode (☼ + ☎ / ◗ + ☎).

This operating mode is executed until the telephone remote switch is deactivated again or the **ESC** key is pressed. After that, the room thermostat clock returns to Automatic mode.

Outdoor temperature sensor (OTS)

An outdoor temperature compensation (OTC) regulation allows the the water heater to respond quickly to changes of the outdoor temperature, in order to adjust the supply temperature and guarantee a constant room temperature.

If you connect an outdoor temperature sensor (NTC 100 kΩ) to the external input of the room thermostat clock, in the installation menu under **OUTDOOR TEMPERATURE SENSOR (OTS)** you have to select the setting **ON**.

The outdoor-temperature-dependent regulation must be activated in the installation menu under **OTC REGULATION (OTC)** (**ON**). If you do not activate the outdoor-temperature-dependent regulation (**OFF**), only the current outdoor temperature will be shown on the display.

The outdoor temperature sensor can also be connected directly to the water heater. An outdoor-temperature-dependent regulation is also possible in this case, but the current outdoor temperature will not be shown on the display of the room thermostat clock.

User Menu

Press the **MODE** and **SET/INFO** keys simultaneously for 3 seconds until the user menu (**USER MENU**) is displayed. To go to the next menu item, press the ▷ key; to return to the previous menu item, press the ◁ key.
Use the **+/–** keys to change setting and confirm them by pressing **OK**.

The following settings are possible:

Display lighting (D_t)	Switches the display lighting on (5, 10 or 15 seconds)
Display brightness (D_B)	Sets the display brightness (0 = OFF, ..., 4 = 100%)
Display contrast (D_C)	Sets the display contrast (0 = min., ..., 15 = max.)
Comfort temperature (COT)	Sets the comfort temperature (15°C to 24°C)
Reduced temperature (RET)	Sets the reduced temperature (7°C to 15°C)
Offset (OFS)	Option to set/modify the measured temperature (-5°C...+5°C)
Summertime/wintertime (SWT)	Activates/deactivates the automatic change
Time format (TMF)	12h or 24h format can be set
Default settings (DFL)	Restores the default settings

Installation Menu

Press the **OK**, **MODE** and **SET/INFO** keys simultaneously for 3 seconds until the installation menu (**INSTALLERS MENU**) is displayed. To go to the next menu item, press the ▷ key; to return to the previous menu item, press the ◁ key.
Use the **+/–** keys to change setting and confirm them by pressing **OK**.

The following settings are possible:

High temperature (HIT):	Sets the high temperature for programs (central heating) max. value: +32°C, preset value: +32°C
Low temperature (LOT)	Sets the low temperature for programs (central heating) min. value: +7°C, preset value: +15°C
Frost protection (FRT)	Sets the frost protection temperature to between +3°C and +7°C preset value: 5°C
DHW temperature (HWT)	Sets the low temperature for programs (domestic hot water) min. value: +20°C, max. value: +85°C, preset value: +60°C
DHW time (HWT)	Sets the time for domestic hot water preparation – ON = all-day domestic hot water preparation – OFF = no domestic hot water preparation – tIM (timed) = program-dependent domestic hot water preparation

Algae function (ALG)	Sets the algae function: ON or OFF To prevent the formation of bacteria in the domestic hot water storage tank during prolonged shutdown periods, the domestic hot water is heated once a week (Wednesdays, 2:00 o'clock) to 70°C for one hour. (Only available if a separate domestic hot water storage tank is present.)
Regulation (REG)	To select between PID and 2-point regulation (preset: PID)
System reaction (S_R)	Sets the heating system reaction – Fast (FSt): 12 cycles per hour (preset) – Medium (Med): 6 cycles per hour – Slow (Slo): 3 cycles per hour (only available, if regulation (REG) is set to PID)
Differential (DIF)	Sets the differential value to between 0.1°C and 0.9°C (only available, if regulation (REG) is set to 2P)
Optimum start (OPS)	Sets the optimum start: ON or OFF (the temperature is reached at the set time.)

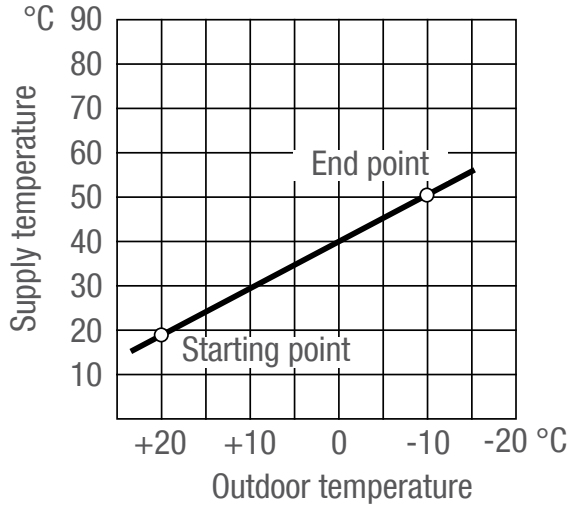
Heat gradient	Sets the speed/time to reach the desired room temperature: 1°C/hour, 2°C/hour or 4°C/hour (only available, if optimum start (OPS) is set to ON)
OTC regulation (OTC)	Set the OTC regulation to ON or OFF
Installation type (ITC)	Sets the heating type: 1, 2, 3 or 4 1 = 90/70 system, 2 = 70/50 system (preset), 3 = 50/35 system, 4 = 40/30 system (only available, if OTC regulation (OTC) is set to ON)
External input (EXT)	Sets the external input: OFF, tLF (telephone), UdC (window/door contact) or MdC (motion detector)
External phone mode (EPM)	Sets the external phone mode: rdc = Reduced temperature mode or CoM = Comfort temperature mode (only available, if external input is set to tLF)
Outdoor temperature sensor (OTS)	Sets the outdoor temperature sensor: ON or OFF
Key lock (LOK)	Activates the key lock to prevent unauthorized access. To deactivate the key lock, press the **MODE** and **ESC/STANDBY** key for 3 seconds.

Operating hours (OPT)	Displays the operating hours of the room thermostat (max. 99.999 hours).
Maintenance (MAN)	You can set whether and after how many months a maintenance message is to be displayed – 6M (6 months), 12M (12 months), 18M (18 months), 24M (24 months), rST (Reset) or OFF. After the set time has expired, a message appears on the display.
Battery level (BAT)	The battery level is displayed.

Outdoor temperature compensation (OTC)

For OTC regulation, the starting and end points of the heating curve are set.
They can be set in the installation menu under **INST_TYPE**.

To change the temperatures temporarily, the heating curve can be shifted by pressing the △▽ keys, see manual override page 79.



Type of heating

Type of heating	Setting range	Supply / return temperature
Radiator heating	High temperature	+90°C/ +70°C
Radiator heating	Middle temperature	+70°C/ +50°C
Radiator heating	Low temperature	+50°C/ +35°C
Floor heating	Lowest temperature	+40°C/ +30°C

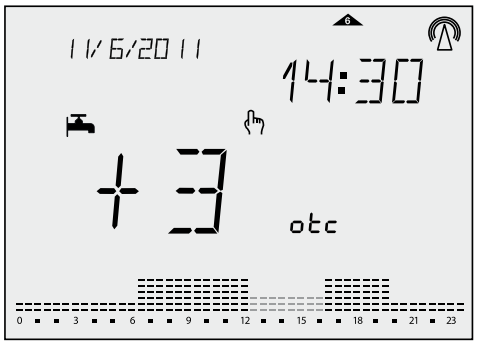
Sets the type of heating

Type of heating	Menu selection*	HK starting point	HK end point	P shift Reduction
90 / 70 system	1	+30°C	+85°C	-15°C
70 / 50 system	2	+25°C	+75°C	-15°C
50 / 35 system	3	+25°C	+55°C	-15°C
40/30 System	4	+25°C	+45°C	-15°C

*) The selection of the type of heating is done in the installation menu under **INST_TYPE**.
Select the heating type for your system.

Manual Override (with OTC regulation)

Symbol: + **otc**

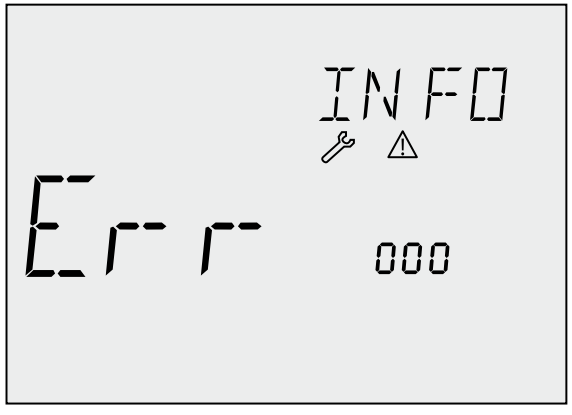


With OTC regulation, you can use the manual override function to shift the current heating curve in parallel, in order to increase or decrease the room temperature.
Use the ▵▿ keys to set the desired nominal value between -5 and +5, i.e., a shift in the heating curve by 5 K maximum. A confirmation by pressing **OK** is not required. The set value is valid for the current period and is maintained until the next program change (time and temperature).
To return to Automatic mode, press the upper ▵▿ keys for 3 seconds or open the housing cover and press the **OK** key.

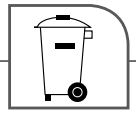
Error messages

As soon as an error occurs, the warning symbol ⚠ appears on the display.

▶ Press the **SET/INFO** key to see the error code.



Error code	Description
000	Faulty connection – No communication with the water heater
001	Error – Water heater locked
002	Water pressure too low (central heating)
003	Error gas/flame (water heater)
004	Error air pressure (water heater)
005	Water too hot (central heating)
006	Diagnosis/Service display
007	No connection to outdoor temperature sensor



Disposal / Recycling

Dispose of the packing material correctly according to legal requirements and regulations.

For the disposal of defective system components or of the system at the end of its service life, please observe the following information:

- Ensure proper disposal of the parts, i.e., separating them according to type.
- Do not throw electrical and electronic components in the bin. Take these parts to the recycling centers.
- Always ensure that the device is disposed of in an environmentally compatible manner in accordance with state-of-the-art environmental protection, recycling and disposal technologies.

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For further product information, please go to our eLearning Portal at
www.graesslin.de/elearning

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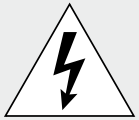
Avvertenze per la sicurezza



AVVERTENZA

Pericolo di morte per scossa elettrica!

▷ Il collegamento e il montaggio vanno eseguiti esclusivamente da un elettricista specializzato!

- Per evitare lesioni, il collegamento e il montaggio vanno eseguiti esclusivamente da un elettricista specializzato!
- Osservare le direttive nazionali e le condizioni per la sicurezza.
- Qualsiasi intervento o modifica all'apparecchio comporta la cessazione immediata della garanzia.

Leggere e rispettare queste istruzioni per garantire il funzionamento perfetto dell'apparecchio e un lavoro sicuro.

Indicazioni relative all’apparecchio

Descrizione dell’apparecchio

Cronotermostato digitale con controllo modulante del bruciatore che permette di controllare e programmare le applicazioni con acqua industriale e riscaldamento trasmettendo i dati tra il cronotermostato e lo scaldaacqua.

Il cronotermostato dispone di varie modalità di funzionamento e ingressi aggiuntivi per collegare gli accessori, come ad es. sonde termiche esterne, rivelatore di movimento o contatto finestre/porte.
Inoltre è possibile comandare il termostato via telefono.

Uso conforme allo scopo d'impiego previsto

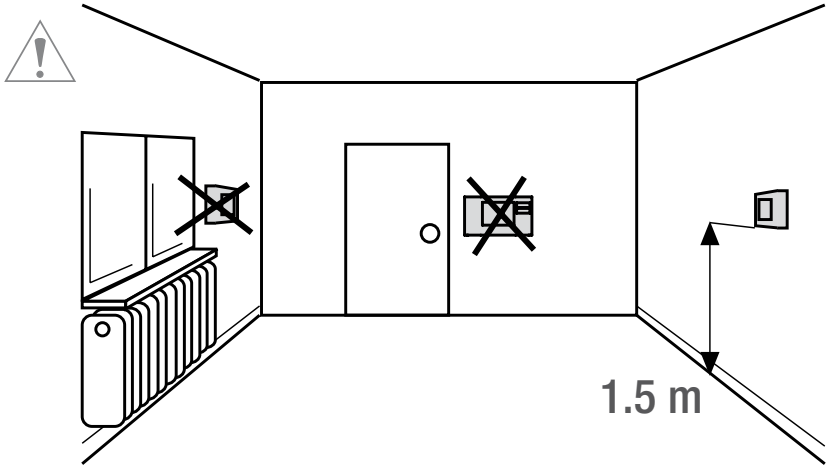
- Comando dello scaldaacqua e bruciatore OpenTherm.
- Apparecchio per montaggio a parete.
- Adatto per l'installazione su scatole incassate.
- Adatto solo per l’impiego in locali asciutti!

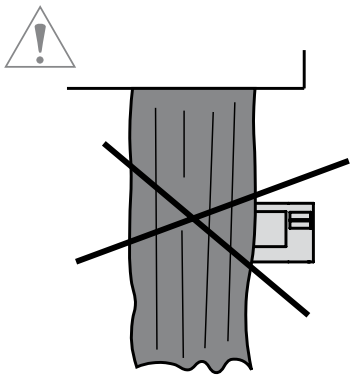
Dati tecnici

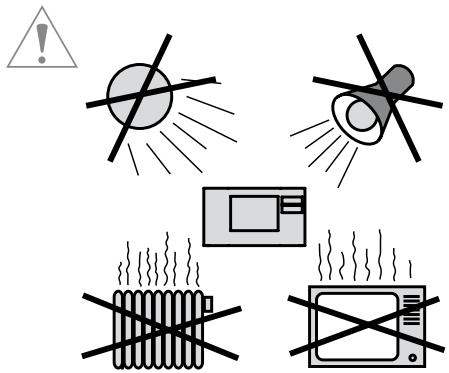
Dimensioni A x L x P (mm)	87 x 154 x 27
Peso (g)	200
Alimentazione di tensione	Bus OT dello scaldaacqua (opzionalmente: batterie 1,5 V AA LR6)
Durata utile della batteria	2 anni (a seconda della frequenza di commutazione)
Riserva di carica	> 1h (senza batterie opzionali)
Tipo di collegamento	Bus OT – morsetti a vite / 1,5 mm^2 Ingressi esterni – morsetti a vite / 1,0 mm^2
Intervallo della indicazione della temperatura ambiente	0,1°C
Gamma di regolazione della temperatura	+5°C ... + 32°C
Indicazione dell'ora	24 h o 12 h in formato AM/PM
Intervallo dell'ora	
– Indicazione dell'ora	1 minuto
– Programma	30 minuti

Precisione di regolazione della temperatura	± 0,5°C (20 K/h)
Calorimetria (sistema di riscaldamento)	3 K/h
Indicazione della temperatura ambiente	+0°C ... + 50°C
Programmazione	Programma settimanale con un massimo di 48 programmi di tempo e di temperatura
Programmi preprogrammati	4 + 1 definito dall'utente
Classe di isolamento	II
Grado di protezione	IP40
Illuminazione del display	Sì / blu chiaro
Ingresso esterno	– analogico - senza tensione – digitale - sensore NTC 100 kΩ
Override manuale	Sì
Regolazione	Modulazione
Colori: bianco / antracite / argento	9010 / 7016 / 9006

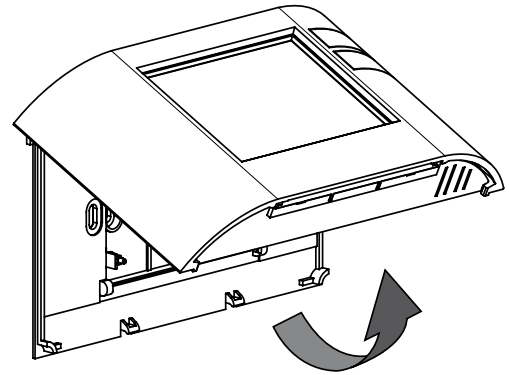
Installazione e montaggio



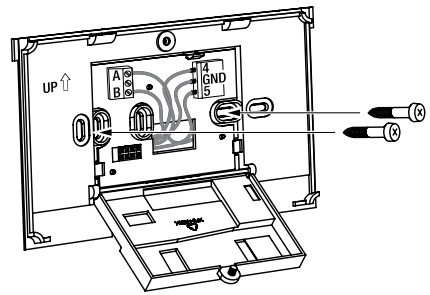




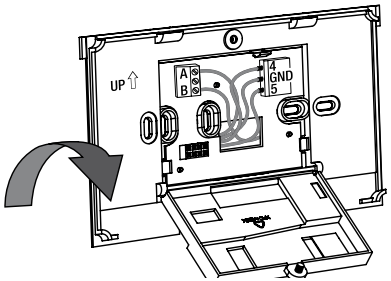
1 Aprire l’apparecchio



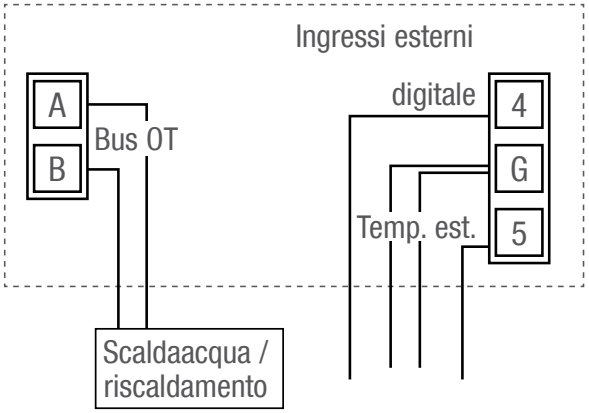
2 Montaggio a parete



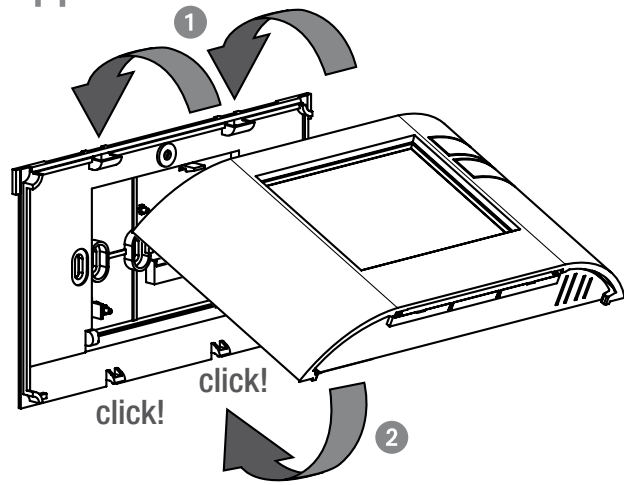
3 Collegamento / schema di collegamento



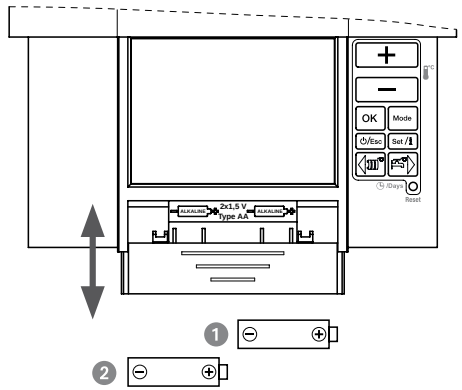
⚠ Il collegamento e il montaggio vanno eseguiti esclusivamente da un elettricista specializzato!



4 Chiudere l'apparecchio



5 Inserire le batterie (opzionale)



Utilizzare
2 x 1,5 V AA LR6

(Per l'illuminazione di fondo se lo scaldaacqua non supporta Smart Power.)

Comando ed impostazione

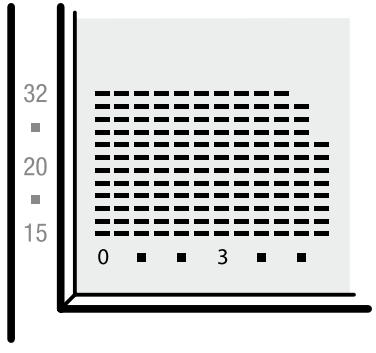
L'apparecchio offre due opzioni per regolare la temperatura ambiente:

- **Regolazione in base alla temperatura ambiente** senza sonda termica esterna (PID regolabile, regolazione a 2 punti, avvio ottimo). Nell'apparecchio di comando è integrata una sonda termica che considera le fonti di calore, come ad es. la radiazione solare o i caminetti.
- **Regolazione in base alla temperatura esterna** con sonda termica esterna (OTC – outdoor temperature compensation)

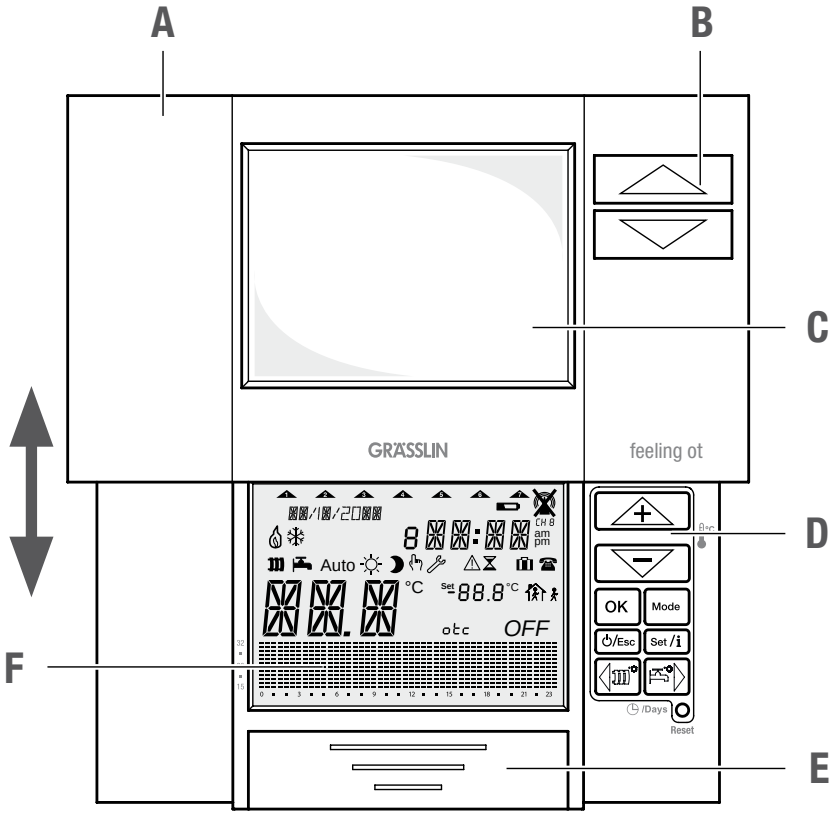
  Vedi capitolo "Ingressi esterni; sonda termica esterna"

Avvertenze per l'uso

- I testi lampeggianti segnalano che è richiesta un'immissione. Se non viene fatta alcuna immissione entro due minuti, l'apparecchio torna al funzionamento automatico.
- Confermare tutte le immissioni premendo **OK**.
- Le impostazioni salvate vengono archiviate nella memoria dati.
- L'istogramma indica la sequenza di temperature programmata
  7 – 15°C = viene indicata come un segmento
  16 – 26°C = un segmento indica 1°C
  oltre 26°C = viene indicata come 12 segmenti

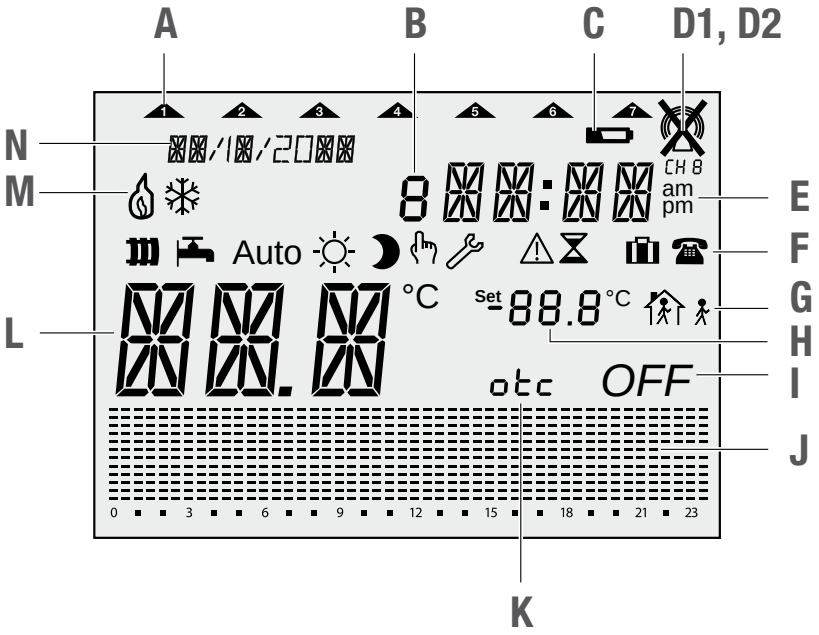


Descrizione dei gruppi costruttivi



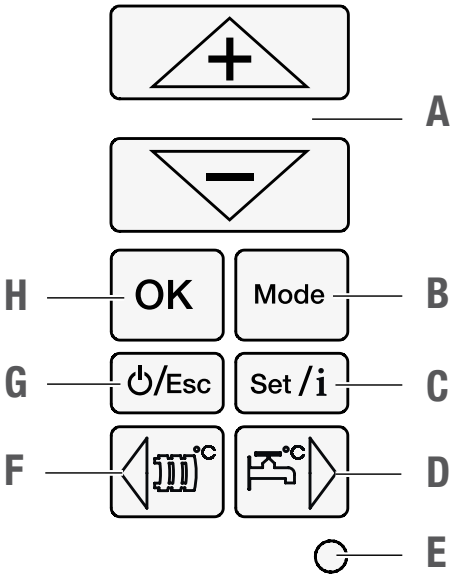
- **A** Coperchio scorrevole
- **B** Tasti per funzione Override manuale (tasti Override)
- **C** Finestra
- **D** Tastiera
- **E** Vano batterie
- **F** Display

Indicazione display



A Giorno attuale
(1 = lunedì, 2 = martedì, ...)
B Ore di funzionamento
C Stato della batteria
D1 Simbolo dell'antenna: comunicazione ON; lampeggia durante trasferimento dati
D2 Simbolo dell'antenna cancellato: problema di comunicazione
E Ora, formato 12h o 24h
F Modalità di funzionamento
G Simbolo per temperatura ambiente/esterna
H Temperatura impostata
I Modalità OFF
J Istogramma ora/temperatura
K Regolazione in base alla temperatura esterna (OTC) attivata
L Temperatura attuale
M Indicazione di stato modalità di funzionamento
N Data attuale

Tasti funzione



* Premere il tasto **RESET** quando si ripone il cronotermostato sulla piastra di montaggio (solo se l'apparecchio funziona senza batterie).

A **+/–** per impostare la temperatura, i giorni, le ore e gli eventi.

B **MODE** per scegliere le modalità di funzionamento disponibili.

C **INFO** per visualizzare delle impostazioni importanti.
SET per impostazioni dopo la messa in funzione (premere e tenere premuto il tasto per 5 secondi).

D **DHW** (tasto ▷) per visualizzare e controllare la temperatura dell'acqua industriale (Domestic Hot Water).

E **RESET** per ripristinare le impostazioni di fabbrica. *

F **CH** (tasto ◁) per visualizzare la temperatura attuale/nominale del riscaldamento centralizzato (Central Heating).

G **ESC/STANDBY**: tasto ON/OFF, un passo indietro nel menu.
Premere il tasto > 3 secondi per tornare al menu principale/ funzionamento automatico.
Premere il tasto > 5 secondi per passare alla modalità Standby.

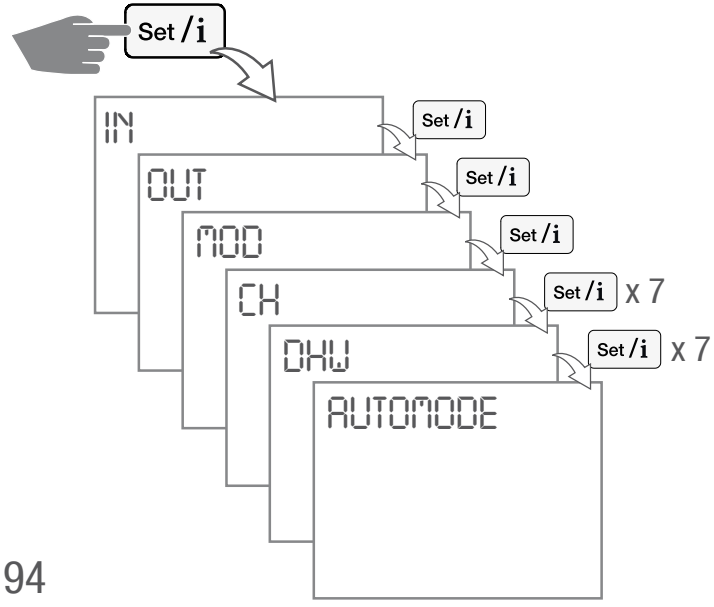
H **OK** per confermare le immissioni e passare al passo successivo.

Tasti di funzione – accesso diretto

Menu Info

Qui si possono visualizzare le seguenti informazioni:

- temperatura ambiente attuale (IN)
- temperatura esterna attuale (OUT)
- livello di modulazione in % (MOD)
- programmi – riscaldamento centralizzato (CH)
- programmi – acqua industriale (DHW)

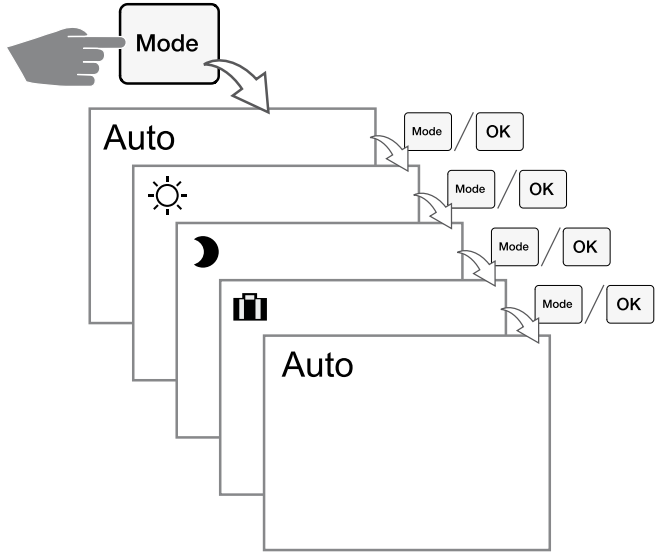


Modalità di funzionamento

Qui si possono visualizzare le seguenti modalità di funzionamento:

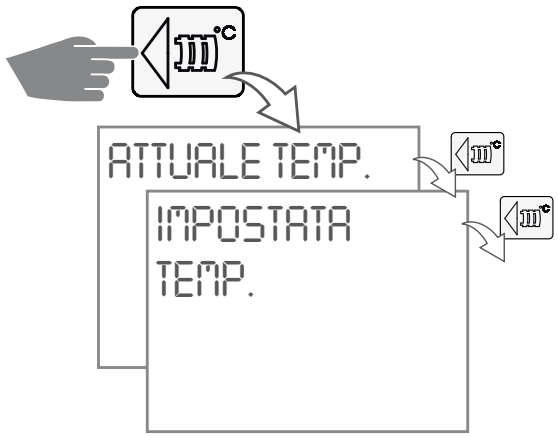
- funzionamento automatico (Auto)
- modalità temperatura comfort (☼)
- modalità temperatura ridotta (◗)
- modalità vacanze (🧳)

▶ Premere **OK** per confermare la selezione.



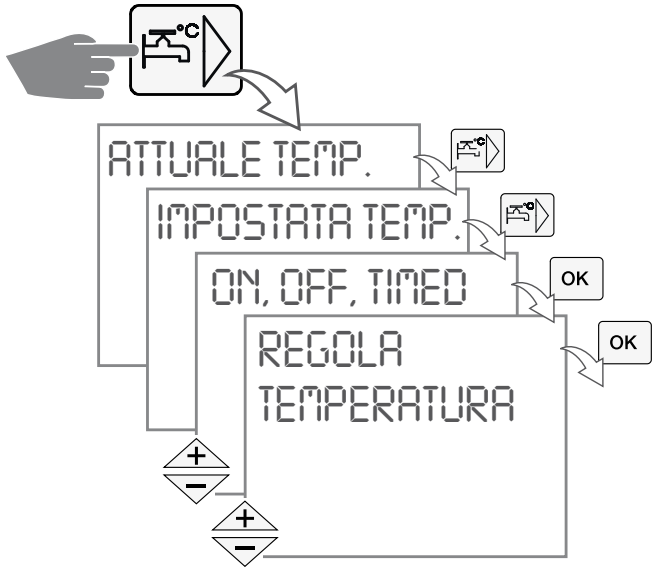
Menu delle temperature – riscaldamento centralizzato

Qui si possono visualizzare la temperatura di riscaldamento attuale (ACt) e quella impostata (SEt).



Menu delle temperature – acqua industriale

Qui si può controllare e impostare la temperatura dell'acqua industriale.



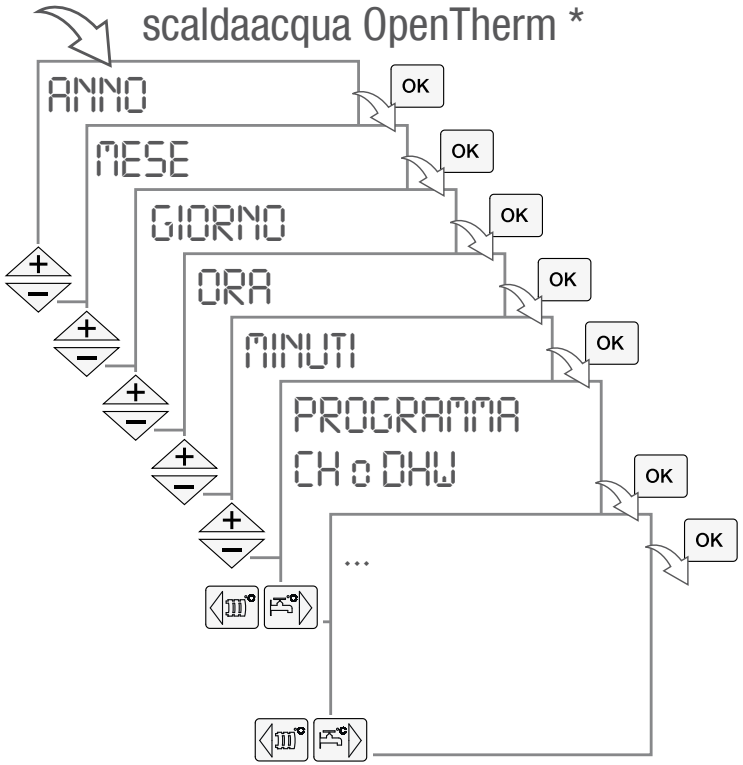
1. Premere il tasto **DHW**
   - ▷ Visualizzazione della temperatura attuale dell'acqua
   - ▷ Visualizzazione della temperatura impostata per l'acqua
2. Selezionare quando si necessita acqua industriale:
   ON = preparazione dell'acqua industriale durante tutto il giorno
   OFF = nessuna preparazione dell'acqua industriale
   tIM (timed) = preparazione dell'acqua industriale in base al programma,
   vedi capitolo “Programma nuovo – acqua industriale (DHW)”, pagina 102.
3. Confermare premendo **OK**.
4. Selezionare la temperatura desiderata per l'acqua industriale ➔ **OK**

Messa in funzione

Impostazione della data e dell’ora

Impostazione della data e dell'ora durante la messa in funzione.
L'impostazione di fabbrica è 15/06/2011.

Inserire la batteria o collegare con lo scaldaacqua OpenTherm *



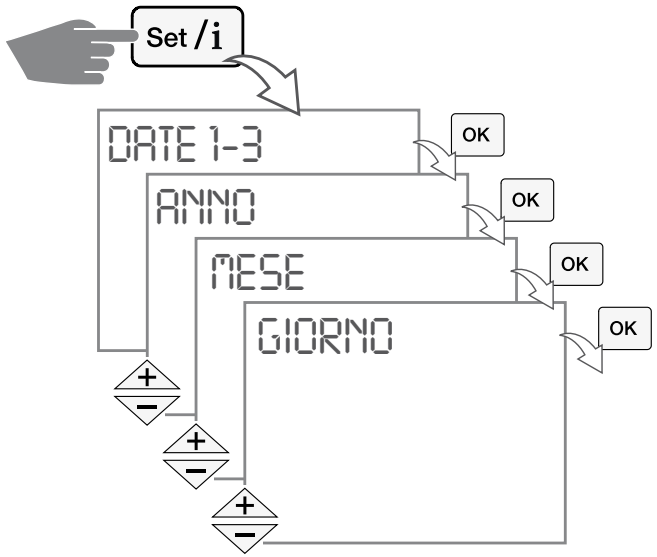
* Se non sono inserite le batterie, può durare ca. 45 secondi finché è stabilita la comunicazione tra il cronotermostato e la caldaia mediante bus OT.

- Premere i tasti **+/–** per impostare anno, mese, giorno, ora e minuti.
- Premere **OK** per confermare la selezione.
- Per la descrizione dettagliata dell'impostazione di un programma nuovo, vedi capitolo "Programma nuovo – riscaldamento centralizzato (CH)" o "Programma nuovo – acqua industriale (DHW)".

Impostazioni

Premere il tasto **SET/INFO** per 5 secondi per passare al menu "Impostazione". Qui si possono impostare la data, l'ora e i programmi per il riscaldamento centralizzato e l'acqua industriale.

Impostazione della data e dell'ora

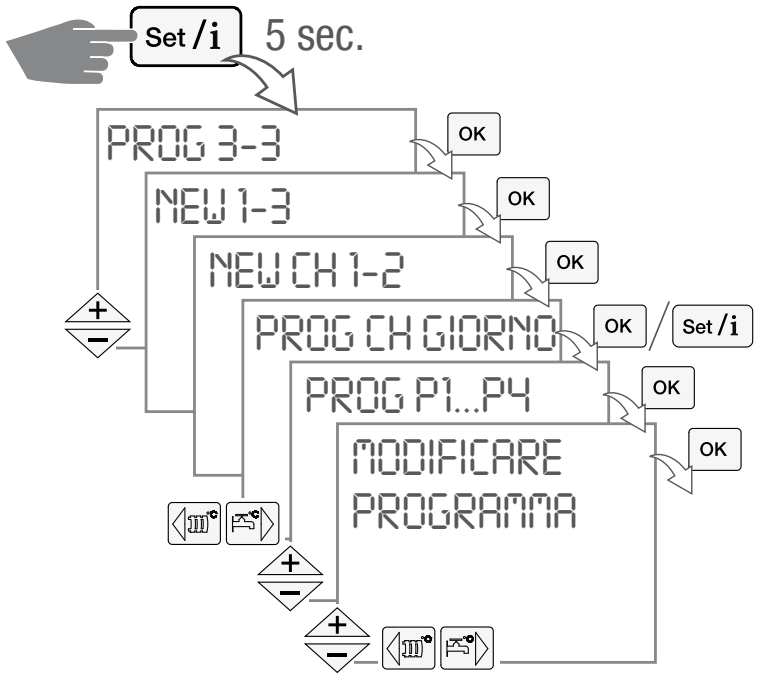


Premere i tasti **+/–** per selezionare tra:
– 1-3 = impostazione della data
– 2-3 = impostazione dell'ora
– 3-3 = impostazione dei programmi (riscaldamento centralizzato o acqua industriale)

- Premere i tasti **+/–** per impostare anno, mese, giorno, ora e minuti.
- Premere **OK** per confermare la selezione.

- L'ora viene impostata come la data.

Programma nuovo – riscaldamento centralizzato (CH)



1. Premere il tasto **SET/INFO** per 5 secondi.
2. Selezionare **PROG 3-3 ➔ OK**
3. Selezionare **NEW 1-3 ➔ OK**
4. Selezionare **NEW CH 1-2 ➔ OK**
5. Selezionare il giorno desiderato (◁ o ▷ tasti)

Scegliere tra:

- settimana completa: 1-7
- settimana lavorativa: 1-5
- fine settimana: 6-7
- giorni singoli: 1, 2, 3, 4, 5, 6, 7

▶ Confermare l'insieme di giorni con **OK**.

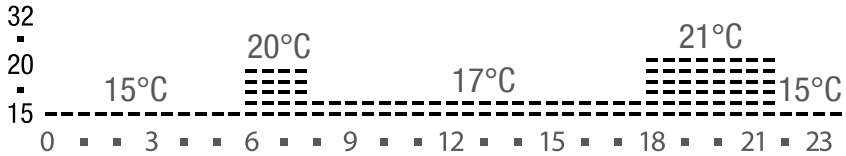
▶ Scegliere i giorni singoli con il tasto **SET/INFO**. Confermare poi l'insieme di giorni individuale con **OK**.

Selezione del programma

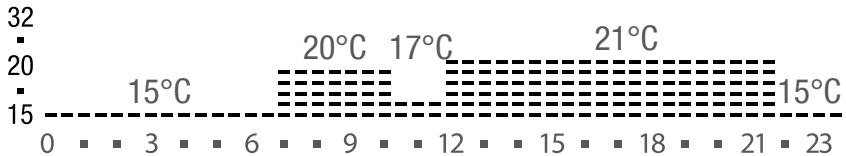
Ad ogni giorno o insieme di giorni deve essere assegnato un programma **P1, P2, P3, P4** (predefinito) o **Pd** (definito dall'utente).

6. Selezionare il programma desiderato **+/–** e confermare con **OK**.

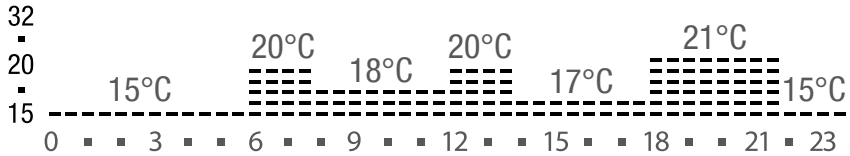
P1



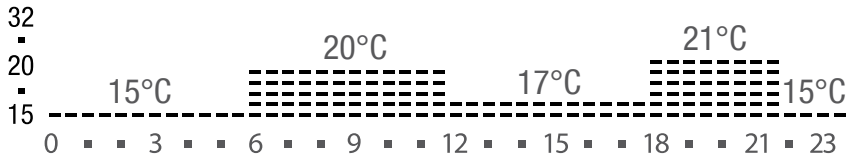
P2



P3



P4



Pd

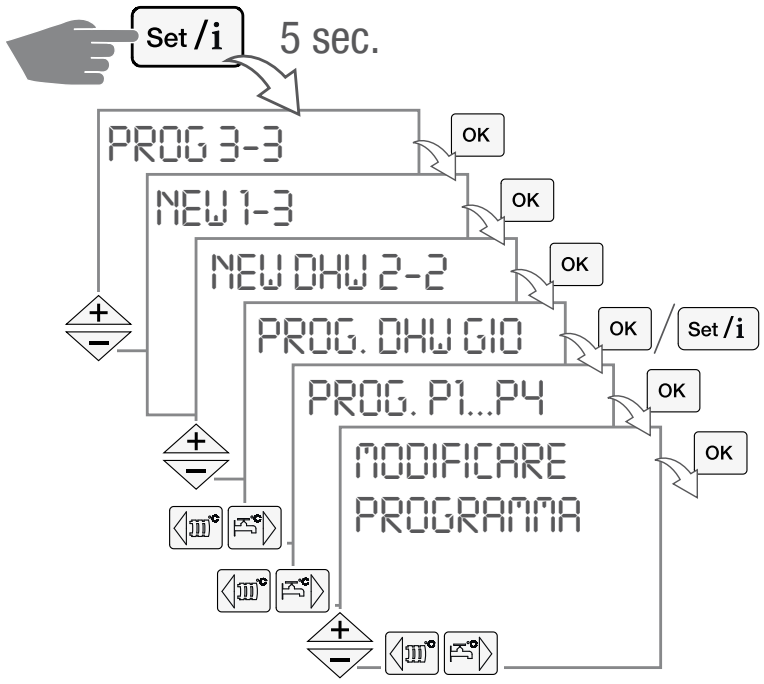
Programma definito dall'utente

Se si desidera si possono modificare i programmi predefiniti P1-P4 o creare un programma alla voce Pd.

Premere i tasti **+/–** per aumentare/ridurre la temperatura gradualmente di 0,5°C. Premere il tasto ◁ o ▷ per avanzare/ retrocedere di 30 minuti. La temperatura precedentemente impostata viene applicata.

7. Premere **OK** per salvare le impostazioni.

Programma nuovo – acqua industriale (DHW)



1. Premere il tasto **SET/INFO** per 5 secondi.
2. Selezionare **PROG 3-3 ➔ OK**
3. Selezionare **NEW 1-3 ➔ OK**
4. Selezionare **NEW DHW 2-2 ➔ OK**
5. Selezionare i giorni desiderati (◁ o ▷ tasti)

Scegliere tra:

- settimana completa: 1-7
- settimana lavorativa: 1-5
- fine settimana: 6-7
- giorni singoli: 1, 2, 3, 4, 5, 6, 7

▶ Confermare l'insieme di giorni con **OK**.

▶ Scegliere i giorni singoli con il tasto **SET/INFO**. Confermare poi l'insieme di giorni individuale con **OK**

Selezione del programma

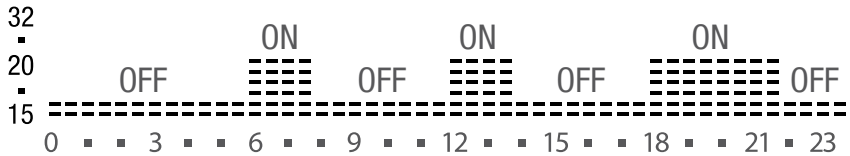
Ad ogni giorno o insieme di giorni deve essere assegnato un programma **P1, P2, P3, P4** (predefinito) o **Pd** (definito dall'utente).

6. Selezionare il programma desiderato +/– e confermare con **OK**.

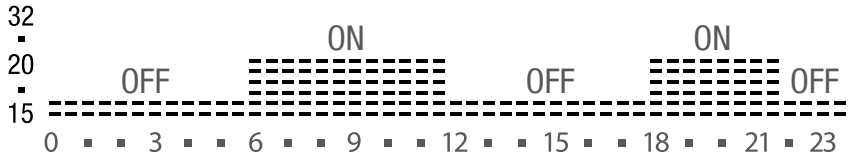
P1

P2

P3



P4



Pd

Programma definito dall'utente

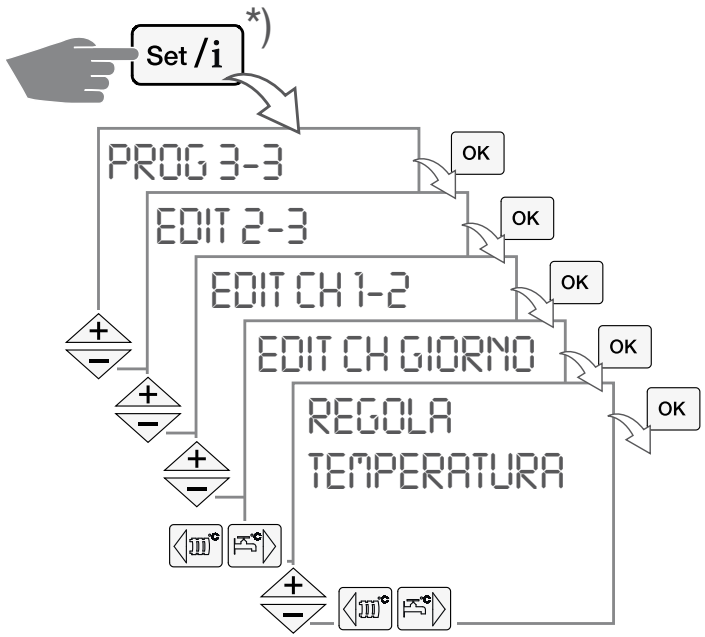
Se si desidera si possono modificare i programmi predefiniti P1-P4 o creare un programma alla voce Pd.

Premere i tasti **+/–** per accendere o spegnere la preparazione dell'acqua industriale.
Premere il tasto ◁ o ▷ per avanzare/ retrocedere di 30 minuti. Il valore impostato precedentemente (ON/OFF) viene applicato.

7. Premere **OK** per salvare le impostazioni.

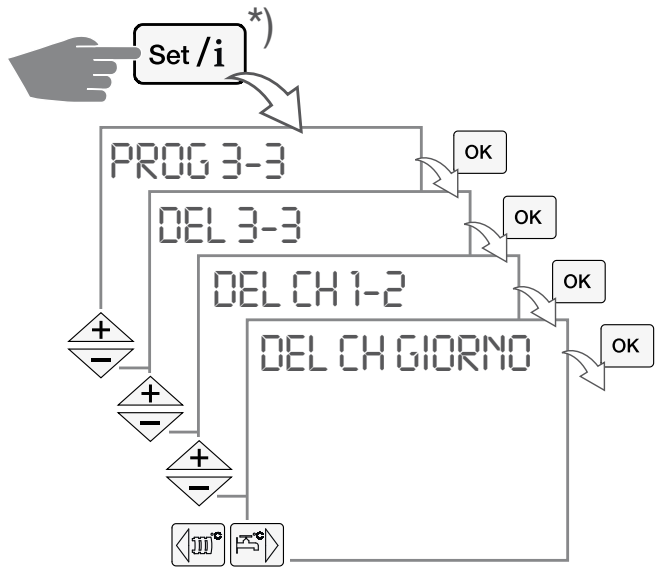
Per attivare la preparazione dell'acqua industriale in base al programma, selezionare nel menu delle temperature "Acqua industriale" l'impostazione **tIM** , vedi pagina 96.

Modifica del programma



*) Premere il tasto per 5 secondi.

Cancellazione del programma



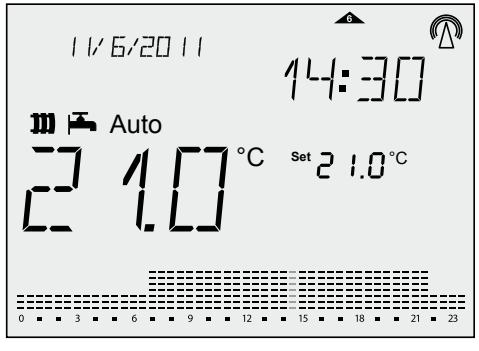
*) Premere il tasto per 5 secondi.

Modalità di funzionamento

Premere il tasto **MODE** finché non viene visualizzata la modalità di funzionamento desiderata e confermare con **OK.**
Premere il tasto **MODE** o **ESC** per 5 secondi per terminare anticipatamente la modalità di funzionamento. Il cronotermostato passa di nuovo al funzionamento automatico.

Funzionamento automatico

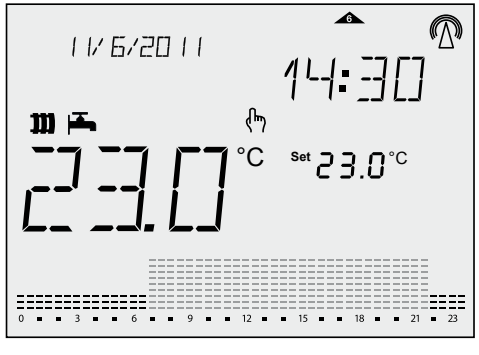
Simbolo: Auto (con la regolazione in base alla temperatura ambiente)
Auto + **otc** (con la regolazione in base alla temperatura esterna)



Dopo ogni programmazione l'apparecchio passa di nuovo al funzionamento automatico. Qui si eseguono i programmi predefiniti o definiti dall'utente.

Override manuale (con la regolazione in base alla temperatura ambiente)

Simbolo:



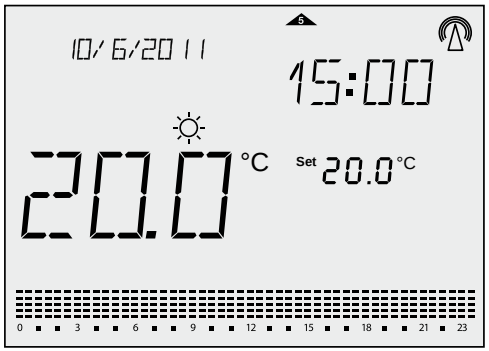
Durante la regolazione in base alla temperatura ambiente si può usare la funzione Override per aumentare o ridurre a custodia chiusa la temperatura impostata attualmente. Premere i tasti ▲▼ per impostare

la temperatura desiderata. Non è necessario confermare con **OK**. Il valore impostato vale per il periodo attuale e viene mantenuto fino al cambio successivo del programma (ora e temperatura).
Per tornare al funzionamento automatico, premere i tasti △▽ superiori per 3 secondi o aprire il coperchio della custodia e premere il tasto **OK**.

Modalità temperatura comfort

Simbolo: ☼

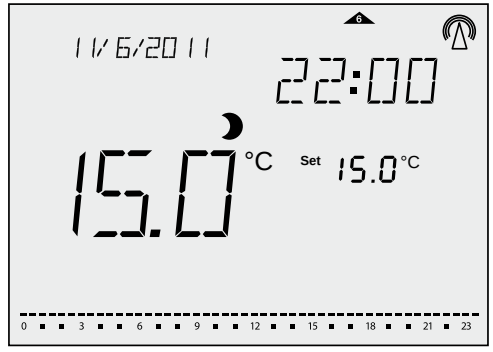
Nella modalità temperatura comfort si imposta la temperatura per il giorno attuale (preimpostazione di fabbrica: 20°C). All'inizio del giorno successivo (ore 00:00) il cronotermostato passa di nuovo al funzionamento automatico. La temperatura comfort si imposta nel menu operatore.
Premere il tasto **MODE** per terminare anticipatamente la modalità temperatura comfort.



Modalità temperatura ridotta

Simbolo: ☽

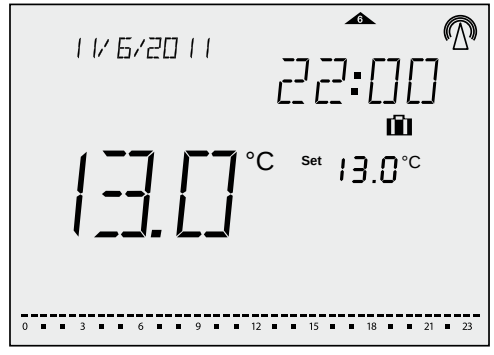
Nella modalità temperatura ridotta si imposta la temperatura per il giorno attuale (preimpostazione di fabbrica: 15°C). All'inizio del giorno successivo (ore 00:00) il cronotermostato passa di nuovo al funzionamento automatico. La temperatura ridotta si imposta nel menu operatore.
Premere il tasto **MODE** per terminare anticipatamente la modalità temperatura ridotta.



Modalità vacanze

Simbolo: 🧳

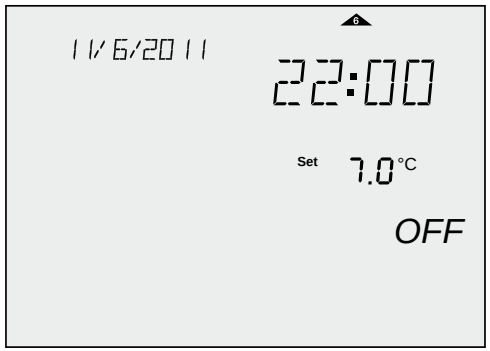
Questa funzione fa sì che una temperatura impostata (7 - 18°C) rimanga attivata per un certo periodo. Il periodo che può essere impostato è compreso tra 1 e 90 giorni. Il giorno iniziale è il giorno attuale.
Quando è scaduto il periodo impostato, l'apparecchio passa di nuovo al funzionamento automatico.



Premere i tasti **+/–** per impostare la temperatura, la data e l'ora.Premere **OK** per confermare la selezione.
Premere il tasto **MODE** per terminare anticipatamente la modalità vacanze.
Premere il tasto **ESC** per modificare le impostazioni del programma vacanze.

Modalità OFF

Simbolo: *OFF*



Questa modalità spegne il sistema (la funzione antigelo rimane attiva). Premere il tasto **ESC/STANDBY** per 5 secondi per attivare la modalità OFF. Premere il tasto **ESC/STANDBY** di nuovo per 5 secondi per uscire dalla modalità OFF.

La modalità Standby può essere impostata solo nel funzionamento automatico.

Ingressi esterni

Premere contemporaneamente i tasti **OK**, **MODE** e **SET/INFO** per 3 secondi finché viene visualizzato il menu di installazione (**INSTALLERS MENU**). Alla voce **EXTERNAL INPUT (EXT)** si può configurare l'ingresso esterno.

Rivelatore di movimento (DIGI)

Se si collega un rivelatore di movimento all'ingresso esterno, nel menu di installazione alla voce **EXTERNAL INPUT (EXT)** si deve selezionare l'impostazione **MdC** (rivelatore di movimento).
Il tipo di collegamento del rivelatore di movimento deve essere un contatto di chiusura.

Dopo il collegamento del rivelatore di movimento, il cronotermostato passa alla modalità temperatura ridotta (☽ + ⧖). Se il rivelatore di movimento rivela dei movimenti in una stanza, il cronotermostato passa automaticamente alla modalità temperatura comfort per i successivi 30 minuti (☼ + ⧖).
Se il rivelatore di movimento rivela altri movimenti prima che scadono i 30 minuti, la modalità temperatura comfort continua per altri 30 minuti.
Se non viene rivelato alcun movimento entro i 30 minuti, il cronotermostato passa alla modalità temperatura ridotta.

Contatto finestre/porte (DIGI)

Se so collega un contatto finestre/porte all'ingresso esterno, nel menu di installazione alla voce **EXTERNAL INPUT (EXT)** si deve selezionare l'impostazione **UdC** (contatto finestre/porte).
Il tipo di collegamento del contatto finestre/porte deve essere un contatto di chiusura.

Dopo il collegamento del contatto finestre/porte, il cronotermostato passa al funzionamento automatico. Se le finestre/porte sono aperte per oltre 2 minuti, il cronotermostato passa alla modalità temperatura ridotta (☽ + ⧖). Quando si chiudono di nuovo le finestre/porte, dopo 2 minuti il cronotermostato passa al funzionamento automatico

Comando telefonico (DIGI)

Se si collega il comando telefonico all'ingresso esterno, nel menu di installazione alla voce **EXTERNAL INPUT (EXT)** si deve selezionare l'impostazione **tLF** (telefono).
Selezionare poi alla voce **EXTERNAL PHONE MODE (EPM)** l'impostazione **rdC** per la modalità temperatura ridotta o **CoM** per la modalità temperatura comfort.
Il tipo di collegamento del comando telefonico deve essere un contatto di chiusura.

Dopo il collegamento del comando telefonico, il cronotermostato passa al funzionamento automatico. Quando si attiva il comando telefonico, il cronotermostato passa alla modalità temperatura comfort o modalità temperatura ridotta a seconda dell'impostazione (☼ + ☎ / ☽ + ☎).

Questa modalità di funzionamento rimane attiva finché non si disattiva il comando telefonico o si preme il tasto **ESC**. Il cronotermostato passa di nuovo al funzionamento automatico.

Sonda termica esterna (OTS)

La regolazione in base alla temperatura esterna (OTC) permette allo scaldaacqua di reagire rapidamente quando cambia la temperatura esterna e quindi di adattare la temperatura di mandata e garantire una temperatura ambiente costante.

Se si collega una sonda termica esterna (NTC 100 kΩ) all'ingresso esterno del cronotermostato, nel menu di installazione alla voce **OUTDOOR TEMPERATURE SENSOR (OTS)** si deve selezionare l'impostazione **ON**.

La regolazione in base alla temperatura esterna si attiva nel menu di installazione alla voce **OTC REGULATION (OTC)** (**ON**). Se non si attiva la regolazione in base alla temperatura esterna (**OFF**), viene visualizzata solo la temperatura esterna attuale nel display.

La sonda termica esterna può essere collegata direttamente allo scaldaacqua. Anche qui è possibile la regolazione in base alla temperatura esterna ma la temperatura esterna attuale non viene visualizzata nel display del cronotermostato.

Menu operatore

Premere contemporaneamente i tasti **MODE** e **SET/INFO** per 3 secondi finché viene visualizzato il menu operatore (**USER MENU**). Per passare alla voce di menu successiva, premere il tasto ▷; per passare alla voce di menu precedente, premere il tasto ◁.
Premere i tasti **+/–** per modificare le impostazioni e confermarle con **OK**.

Sono possibili le seguenti impostazioni:

Illuminazione del display (D_t)	Attivazione dell'illuminazione del display (5, 10 o 15 secondi)
Luminosità del display (D_B)	Impostazione della luminosità del display (0 = OFF, ..., 4 = 100%)
Contrasto del display (D_C)	Impostazione del contrasto del display (0 = min., ..., 15 = max.)
Temperatura comfort (COT)	Impostazione della temperatura comfort (15°C a 24°C)
Temperatura ridotta (RET)	Impostazione della temperatura ridotta (7°C a 15°C)
Offset (OFS)	Possibilità di impostare/modificare la temperatura misurata (-5°C...+5°C)
Ora legale/solare (SWT)	Possibilità di attivare/disattivare il cambio automatico
Formato dell'ora (TMF)	Si può impostare il formato 12h o 24 h
Impostazioni di fabbrica (DFL)	Ripristino delle impostazioni di fabbrica

Menu di installazione

Premere contemporaneamente i tasti **OK**, **MODE** e **SET/INFO** per 3 secondi finché viene visualizzato il menu di installazione (**INSTALLERS MENU**). Per passare alla voce di menu successiva, premere il tasto ▷; per passare alla voce di menu precedente, premere il tasto ◁.
Premere i tasti **+/–** per modificare le impostazioni e confermarle con **OK**.

Sono possibili le seguenti impostazioni:

Temperatura massima (HIT):	Impostazione della temperatura massima per programmi (riscaldamento centralizzato) Valore massimo: +32°C, valore preimpostato: +32°C
Temperatura minima (LOT)	Impostazione della temperatura minima per programmi (riscaldamento centralizzato) Valore minimo: +7°C, valore preimpostato: +15°C
Funzione antigelo (FRT)	Impostazione della temperatura antigelo da +3°C a +7°C Valore preimpostato: 5°C
Temperatura DHW (HWT)	Impostazione della temperatura massima per programmi (acqua industriale) Valore minimo: +20°C, valore massimo: +85°C, valore preimpostato: +60°C

Ora DHW (HWt)	Impostazione dell'ora per la preparazione dell'acqua industriale – ON = preparazione dell'acqua industriale durante tutto il giorno – OFF = nessuna preparazione dell'acqua industriale – tIM (timed) = preparazione dell'acqua industriale in base al programma
Funzione antilegionella (ALG)	Impostazione della funzione antilegionella: ON oppure OFF Per impedire lo sviluppo degli agenti patogeni nel serbatoio dell'acqua industriale durante i periodi prolungati di inattività, si deve riscaldare l'acqua industriale una volta a settima (mercoledì, ore 2:00) per un ora a 70 °C. (Solo disponibile se è presente un serbatoio separato dell'acqua calda.)
Regolazione (REG)	Selezione tra regolazione PID e a 2 punti (preimpostato: PID)
Reazione del sistema (S_R)	Impostazione della reazione del sistema di riscaldamento: – rapida (FSt): 12 cicli per ora (preimpostato) – media (Med): 6 cicli per ora – lenta (Slo): 3 cicli per ora (solo disponibile se la regolazione (REG) è impostata a PID)
Differenziale (DIF)	Impostazione del valore differenziale da 0,1°C a 0,9°C (solo disponibile se la regolazione (REG) è impostata a 2P)

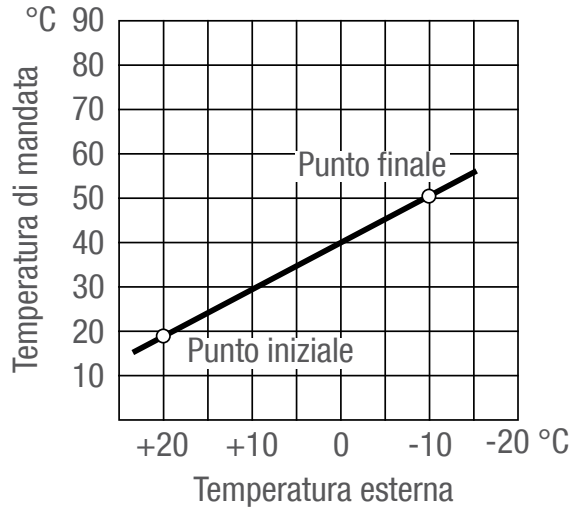
Avvio ottimo (OPS)	Impostazione dell'avvio ottimo: ON oppure OFF (la temperatura viene raggiunta all'ora impostata.)
Gradiente termico (THL)	Impostazione della velocità/ora per raggiungere la temperatura ambiente desiderata: 1°C/ora, 2°C/ora o 4°C/ora (solo disponibile se l'avvio ottimo (OPS) è impostato a ON)
Regolazione OTC (OTC)	Impostazione della regolazione OTC a ON oppure OFF
Tipo di installazione (ITC)	Impostazione del tipo di riscaldamento: 1, 2, 3 o 4 1 = sistema 90/70, 2 = sistema 70/50 (preimpostato), 3 = sistema 50/35, 4 = 40/30 (solo disponibile se la regolazione OTC (OTC) è impostata a ON)
Ingresso esterno (EXT)	Impostazione dell'ingresso esterno: OFF, tLF (telefono), UdC (contatto finestre/porte) o MdC (rivelatore di movimento)
Modalità telefono esterna (EPM)	Impostazione della modalità telefono esterna: rdc = modalità temperatura ridotta o CoM = modalità temperatura comfort (solo disponibile se l'ingresso esterno è impostato a tLF)
Sonda termica esterna (OTS)	Impostazione della sonda termica esterna: ON oppure OFF
Bloccaggio dei tasti (LOK)	Attivazione del bloccaggio dei tasti contro accesso non autorizzato. Per disattivare il bloccaggio dei tasti, premere contemporaneamente i tasti **MODE** e **ESC/STANDBY** per 3 secondi.

Ore di funzionamento (OPT)	Visualizzazione delle ore di funzionamento del termostato (max. 99.999 ore).
Manutenzione (MAN)	Si può impostare se visualizzare un messaggio di manutenzione e dopo quanti mesi visualizzarlo – 6M (6 mesi), 12M (12 mesi), 18M (18 mesi), 24M (24 mesi), rST (reset) oppure OFF. Una volta scaduto il periodo impostato, viene visualizzato un messaggio nel display.
Stato della batteria (BAT)	Lo stato di carica della batteria viene visualizzato nel display.

Regolazione in base alla temperatura esterna (OTC)

Per la regolazione in base alla temperatura esterna si impostano il punto iniziale e finale della curva termica. Questi punti si impostano nel menu di installazione alla voce **INST_TYPE**.

Per un cambio temporaneo della temperatura si può spostare la curva termica premendo i tasti △▽, vedi Override manuale pagina 119.



Tipo di riscaldamento

Tipo di riscaldamento	Gamma di regolazione	Temperatura di mandata/ritorno
Radiatore	Temperatura alta	+90°C / +70°C
Radiatore	Temperatura media	+70°C / +50°C
Radiatore	Temperatura bassa	+50°C / +35°C
Riscaldamento a pavimento	Temperatura minima	+40°C / +30°C

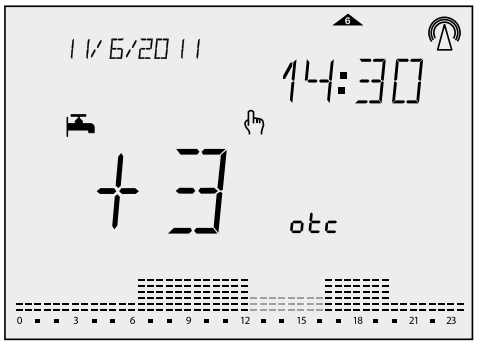
Impostazione del tipo di riscaldamento

Tipo di riscaldamento	Selezione del menu*	Punto iniziale CT	Punto finale CT	Spostamento P Riduzione
Sistema 90/70	1	+30°C	+85°C	-15°C
Sistema 70/50	2	+25°C	+75°C	-15°C
Sistema 50/35	3	+25°C	+55°C	-15°C
Sistema 40/30	4	+25°C	+45°C	-15°C

*) Il tipo di riscaldamento viene selezionato nel menu di installazione **INST_TYPE**.
Selezionare il tipo di riscaldamento adatto al vostro sistema.

Override manuale (con la regolazione in base alla temperatura esterna)

Simbolo: ☝ + **otc**

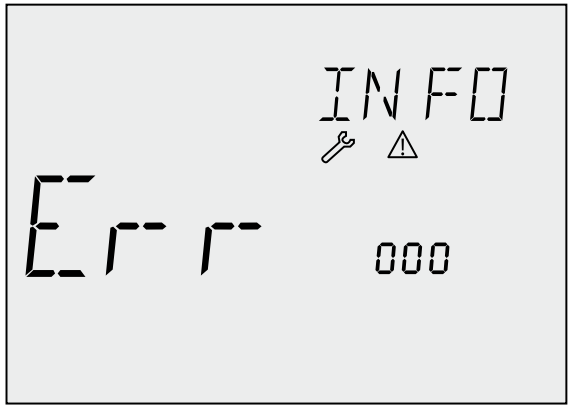


Durante la regolazione in base alla temperatura esterna si può usare la funzione Override per spostare l'attuale curva termica in parallelo e quindi ridurre o aumentare la temperatura ambiente.
Premere i tasti △▽ per impostare il valore nominale desiderato tra -5 e +5, cioè spostare la curva termica di max. 5 K. Non è necessario confermare con **OK**. Il valore impostato vale per il periodo attuale e viene mantenuto fino al cambio successivo del programma (ora e temperatura).
Per tornare al funzionamento automatico, premere i tasti △▽ superiori per 3 secondi o aprire il coperchio della custodia e premere il tasto **OK**.

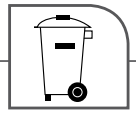
Messaggi di errore

Non appena si verifica un errore, un simbolo di avvertenza ⚠ viene visualizzato nel display.

▶ Premere il tasto **SET/INFO** per visualizzare il codice di errore.



Codice di errore	Descrizione
000	Collegamento non corretto – Nessuna comunicazione con lo scaldaacqua
001	Errore – scaldaacqua bloccato
002	Pressione dell'acqua insufficiente (riscaldamento centralizzato)
003	Errore gas/fiamma (scaldaacqua)
004	Errore - pressione d'aria (scaldaacqua)
005	Acqua troppo calda (riscaldamento centralizzato)
006	Indicazione diagnosi/servizio
007	Nessun collegamento con sonda termica esterna



Smaltimento / Riciclaggio

Il materiale d'imballaggio va eliminato correttamente in conformità alle disposizioni e normative di legge.

Per lo smaltimento di componenti guasti o del sistema stesso dopo la durata utile del prodotto vanno rispettate le seguenti indicazioni:

- Eliminare correttamente, cioè separando i gruppi di materiale dei pezzi da smaltire.
- Non gettare i rifiuti elettrici ed elettronici nell'immondizia. Portare queste parti in centri di riciclaggio.
- Smaltire generalmente nel rispetto dell'ambiente in conformità allo stato della protezione dell'ambiente, del riciclaggio e dello smaltimento.

eLearning byGRASSLIN

Per altre informazioni sul prodotto, vedi il nostro portale eLearning all'indirizzo **www.graesslin.de/elearning**

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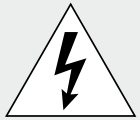
Veiligheidsaanwijzingen



WAARSCHUWING

Levensgevaar door elektrische schok!

▷ Aansluiting en montage uitsluitend door een elektromonteur!

- Om letsel te vermijden mag de aansluiting en montage alleen door een elektromonteur worden uitgevoerd!
- Neem de nationale voorschriften en veiligheidsvoorwaarden in acht.
- Modificaties en wijzigingen aan het apparaat leiden tot het vervallen van de garantie.

Lees en neem beslist deze handleiding in acht om een onberispelijke werking van het apparaat en een veilig werken te waarborgen.

Gegevens van het apparaat

Beschrijving van het apparaat

Digitale kamerthermostaatklok met modulerende brandersturing die de regeling en programmering van huishoudwater- en verwarmingstoepassingen mogelijk maakt door het uitwisselen van gegevens tussen de kamerthermostaatklok en de boiler.

De kamerthermostaatklok beschikt over verschillende modi en extra ingangen om accessoires zoals buitentemperatuurvoelers, aanwezigheidsmelders of raam-/deurcontacten aan te sluiten.
Bovendien is een regeling van de kamerthermostaat per telefoon mogelijk.

Gebruik volgens de voorschriften

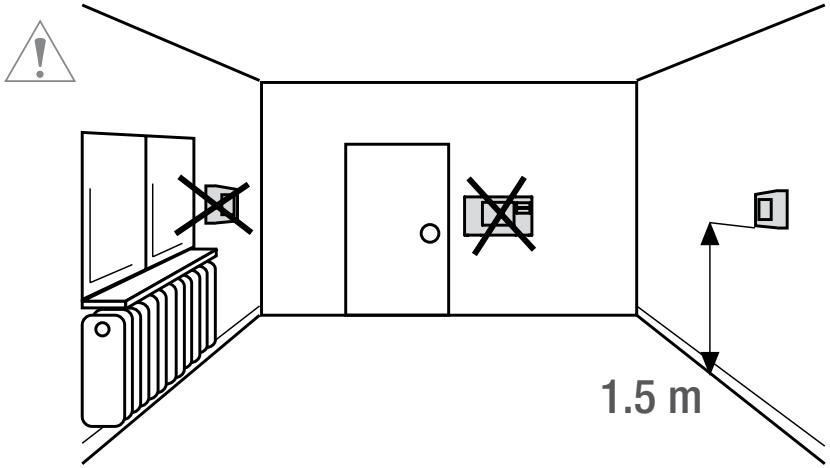
- Regeling van OpenTherm boiler en brander.
- Opbouwapparaat voor installatie aan wanden
- Geschikt voor installatie op inbouwdozen.
- Alleen geschikt voor gebruik in droge ruimtes!

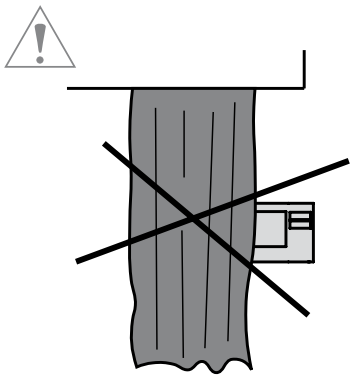
Technische gegevens

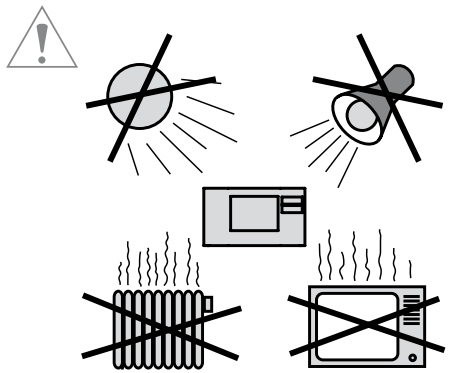
Afmetingen h x b x d (mm)	87 x 154 x 27
Gewicht (g)	200
Stroomvoorziening	OT-bus van boiler (optioneel: batterijen 1,5 V AA LR6)
Batterijlevensduur	2 jaar (afhankelijk van de schakelfrequentie)
gangreserve	> 1h (zonder optionele batterijen)
Aansluitsoorten	OT-bus – schroefklemmen / 1,5 mm^2 externe ingangen – steekklemmen / 1,0 mm^2
Resolutie van de ruimtetemperatuurindicatie	0,1°C
Temperatuur-instelgebied	+5°C ... + 32°C
Tijdindicatie	24 h of 12 h AM/PM formaat
Resolutie van de tijdinstelling	
– Dagtijdindicatie	1 minuut
– Programma	30 minuten
Temperatuur-regelnauwkeurigheid	± 0,5°C (20 K/uur)

Warmtemeting (verwarmingssysteem)	3 K/uur
Ruimtetemperatuurindicatie	+0°C ... + 50°C
Programmering	Weekprogramma met maximaal 48 tijd- en temperatuurprogramma's
Voorgeprogrammeerde programma's	4 + 1 gebruikergedefinieerd
Beschermingsklasse	II
Beveiligingsklasse	IP40
Displayverlichting	Ja / lichtblauw
Externe ingang	– analoog - spanningsvrij – digitaal - sensor NTC 100 kΩ
Handmatige override	Ja
Regeling	Modulatie
Kleuren: wit / antraciet / zilver	9010 / 7016 / 9006

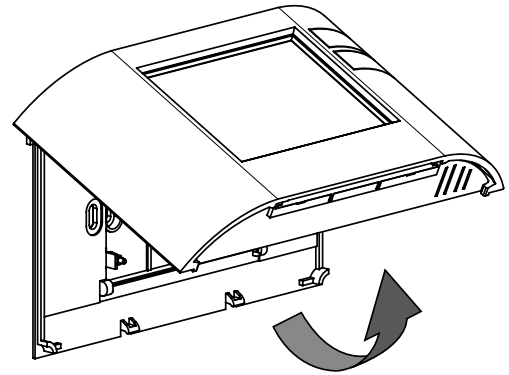
Installatie en montage



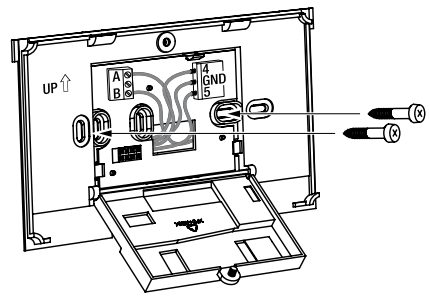




1 Apparaat openen

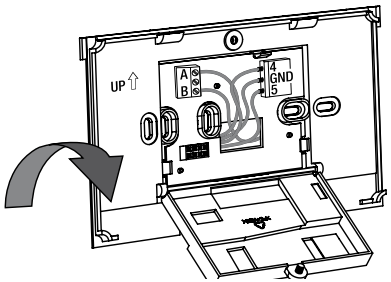


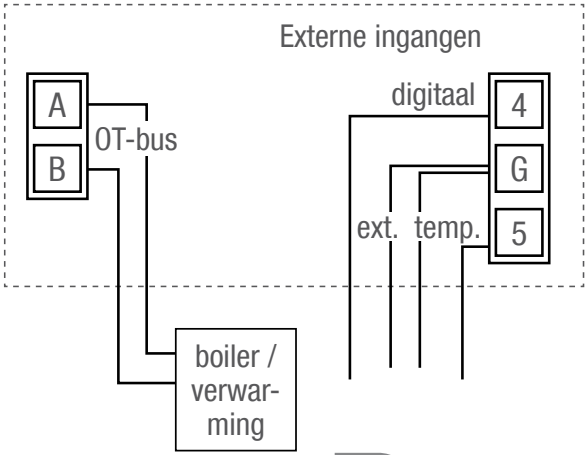
2 Wandbevestiging



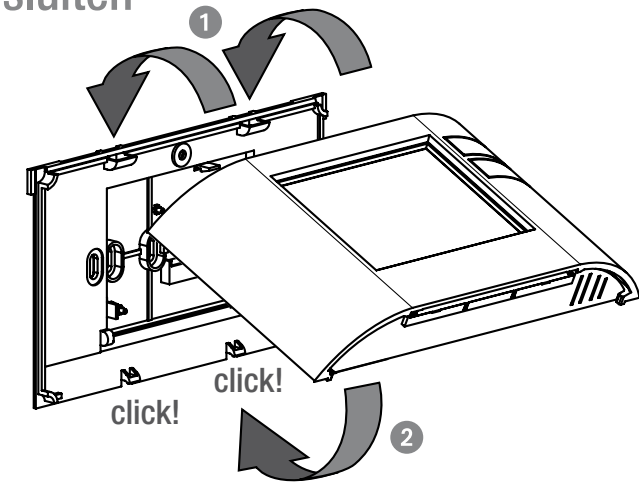
3 Aansluiting / aansluitschema

⚠ Aansluiting en montage uitsluitend door een elektromonteur!

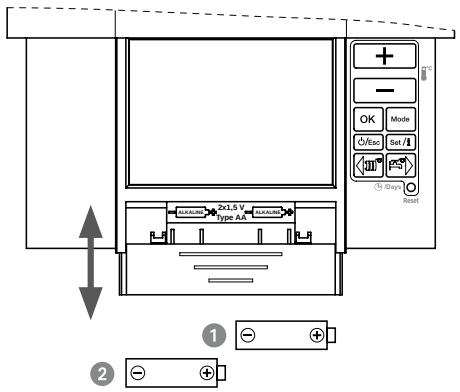




4 Apparaat sluiten



5 Batterijen plaatsen (optioneel)



Gebruik
2 x 1.5 V AA LR6
(voor achtergrondverlichting, indien de boiler geen Smart Power ondersteunt.)

Bediening en instelling

Het apparaat biedt twee mogelijkheden de ruimtetemperatuur te regelen:

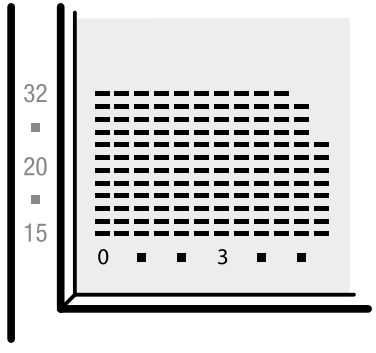
- **Regeling afhankelijk van de ruimtetemperatuur** zonder buitentemperatuurvoeler (PID instelbaar, 2-punt regeling of Optimum-Start).
  In het bedieningsapparaat is een ruimtetemperatuurvoeler geïntegreerd die rekening houdt met warmtebronnen, zoals bijv. zonnestraling of haarden.

- **Regeling afhankelijk van de buitentemperatuur** met buitentemperatuurvoeler (OTC – outdoor temperature compensation)

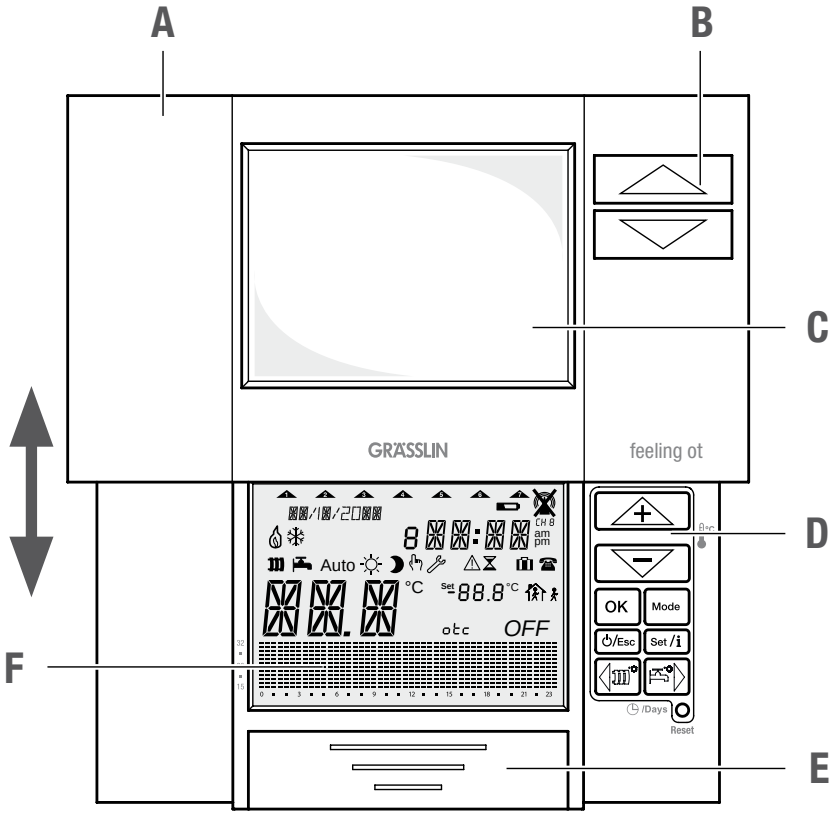
  Zie hoofdstuk „Externe ingangen; Buitentemperatuursensor“

Bedieningsaanwijzingen

- Knipperende teksten markeren een noodzakelijke invoer. Geschiedt binnen 2 minuten geen invoer, keert het apparaat terug naar automatisch bedrijf.
- Bevestig elke invoer met **OK.**
- Opgeslagen instellingen worden bewaard in het datageheugen.
- Het histogram toont het geprogrammeerde temperatuurprofiel
  7 – 15°C = wordt als één segment weergegeven
  16 – 26°C = één segment is gelijk aan 1°C
  boven 26°C = wordt als 12 segmenten weergegeven



Beschrijving van de componenten



A Verschuifbare afdekking

B Knoppen voor handmatige override-functie (override-knoppen)

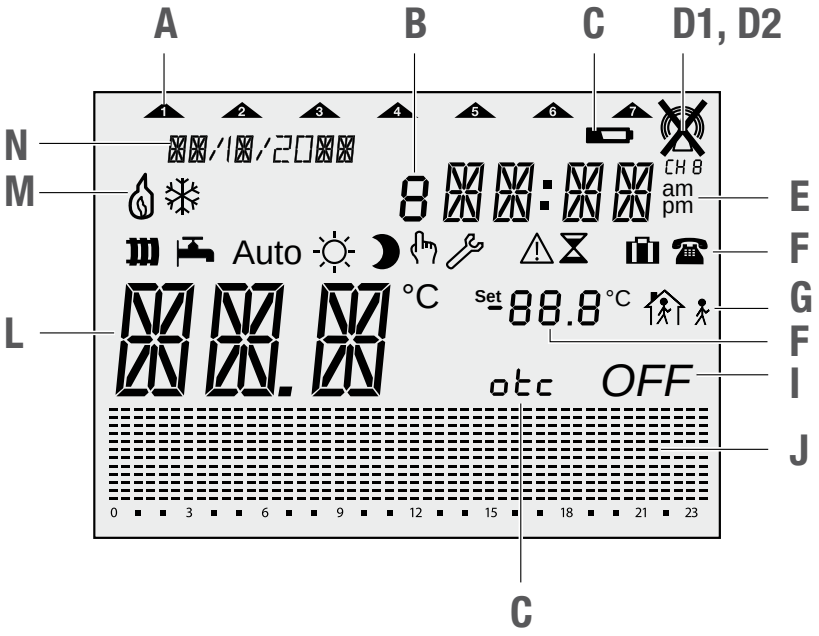
C Venster

D Toetsenbord

E Batterijvak

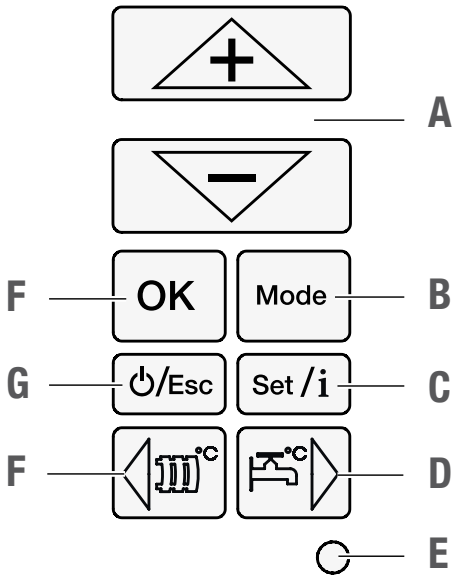
F Display

Displaybeeld



A Actuele weekdag
(1 = maandag, 2 = dinsdag, ...)
B Bedrijfsuren
C Batterij status
D1 Antennesymbool: Communicatie AAN; knippert bij gegevenstransfer
D2 Antennesymbool doorgestreept: Communicatieprobleem
E Tijd, 12h of 24h formaat
F Modus
G Symbool voor ruimte-/buitentemperatuur
H Ingestelde temperatuur
I OFF-modus
J Tijd/temperatuur histogram
K Van de buitentemperatuur afhankelijke regeling (OTC) is geactiveerd
L Actuele temperatuur
M Statusindicatie modus
N Actuele datum

Functietoetsen



* Druk de **RESET**-knop, wanneer u de kamerthermostaatklok weer op de montageplaat zet (alleen wanneer het apparaat zonder batterijen werkt).

A **+/–** Knoppen om temperatuur, dagen, uren en gebeurtenissen in te stellen.

B **MODE**-Knop voor de keuze van de beschikbare modi.

C **INFO**-Knop voor het opvragen van belangrijke instellingen.
SET-Knop voor instellingen naar de ingebruikname (houd de knop 5 seconden gedrukt).

D **DHW**-knop (▷-knop) om de huishoudwatertemperatuur (Domestic Hot Water) te tonen en te regelen.

E **RESET**-knop om terug te keren naar de fabrieksinstellingen. *

F **CH**-Taste (◁-knop) om de der actuele/doeltemperatuur van de centrale verwarming (Central Heating) te tonen.

G **ESC/STANDBY**-knop: AAN/UIT-knop, één stap terug in het menu.
Knop > 3 seconden drukken om naar het hoofdmenu/ automatische modus terug te keren.
Knop > 5 seconden drukken om in de standby-modus te komen.

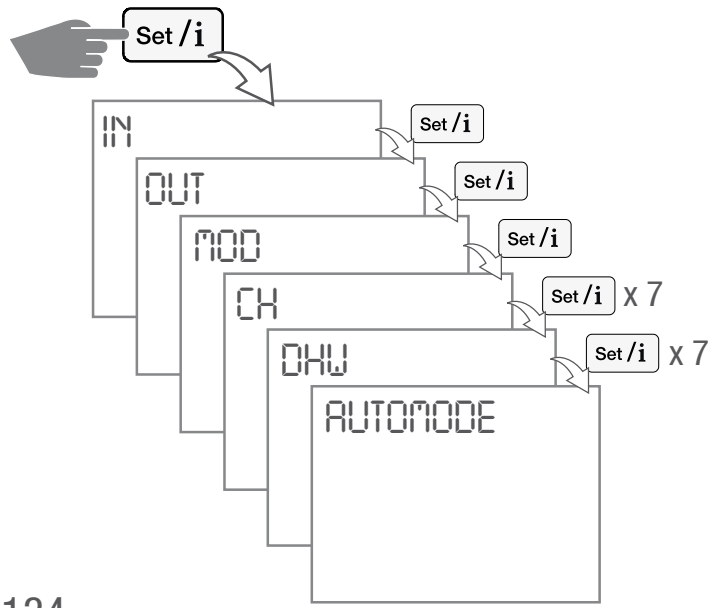
H **OK**-knop voor bevestiging van invoer en om een stap vooruit te gaan.

Functietoetsen – Directe toegang

Info menu

Hier kunt u de volgende informatie oproepen:

- Actuele ruimtetemperatuur (IN)
- Actuele buitentemperatuur (OUT)
- Modulatie-level in % (MOD)
- Programma's – Centrale verwarming (CH)
- Programma's – Huishoudwater (DHW)

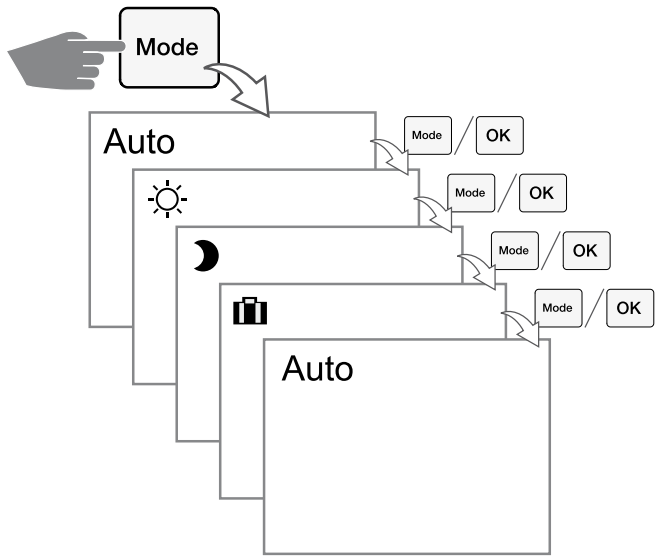


Modus

Hier kunt u de volgende modi kiezen:

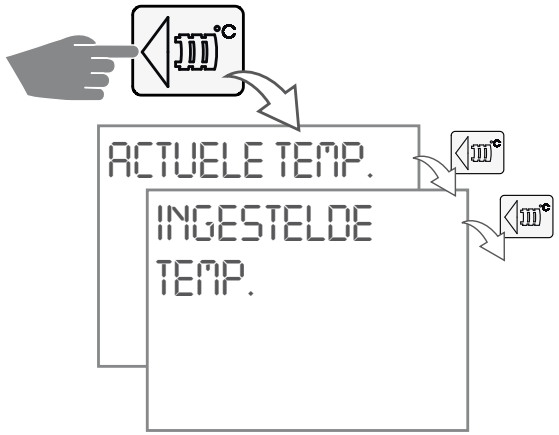
- Automatische modus (Auto)
- Comfort-temperatuur-modus (☼)
- Verlaagde temperatuur-modus (◗)
- Vakantiemodus (🧳)

▶ Druk op **OK** om de keuze te bevestigen.



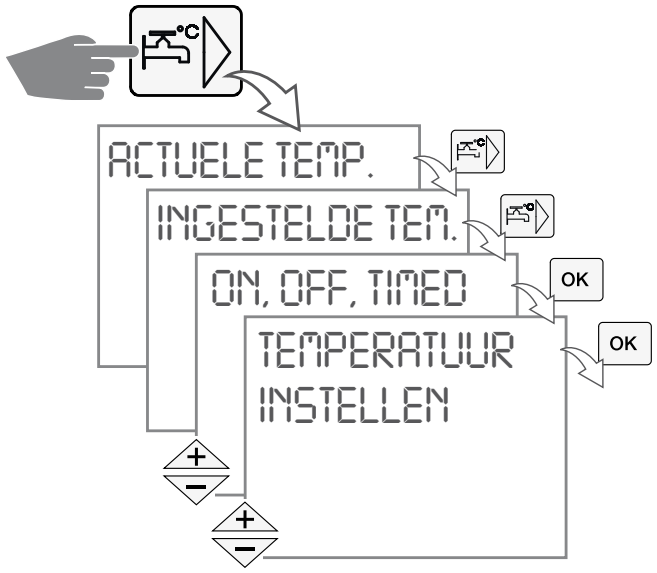
Temperatuurmenu – Centrale verwarming

Hier kunt u de actuele (ACt) en ingestelde (SEt) verwarmingstemperatuur bekijken.



Temperatuurmenu – Huishoudwater

Hier kunt u de huishoudwatertemperatuur controleren en instellen.

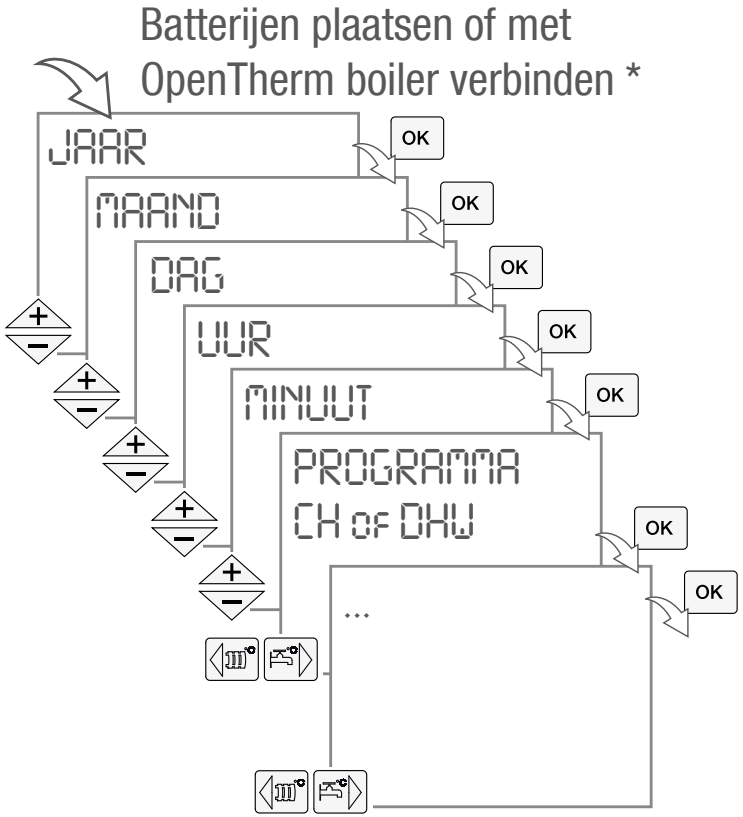


1. Druk op de **DHW**-knop
   ▷ Aanduiding van de actuele watertemperatuur
   ▷ Aanduiding van de ingestelde watertemperatuur
2. Kies wanneer huishoudwater nodig is:
   ON (AAN) = de hele dag bereiding van huishoudwater
   OFF (UIT) = geen bereiding van huishoudwater
   tIM (timed) = programma-afhankelijke bereiding van huishoudwater,
   zie hoofdstuk “Nieuw programma – Huishoudwater (DHW)”, pagina 142.
3. Bevestig met **OK**.
4. Kies de gewenste huishoudwatertemperatuur
   ➔ **OK**

Inbedrijfstelling

Datum en tijd instellen

Verloop van de instelling van de datum en de tijd bij de ingebruikname.
15/06/2011 verschijnt als standaardinstelling.



* Wanneer geen batterijen geplaatst zijn, kan het tot 45 seconden duren tot de communicatie tussen kamerthermostaatklok en verwarmingsketel via OT-bus tot stand gebracht is.

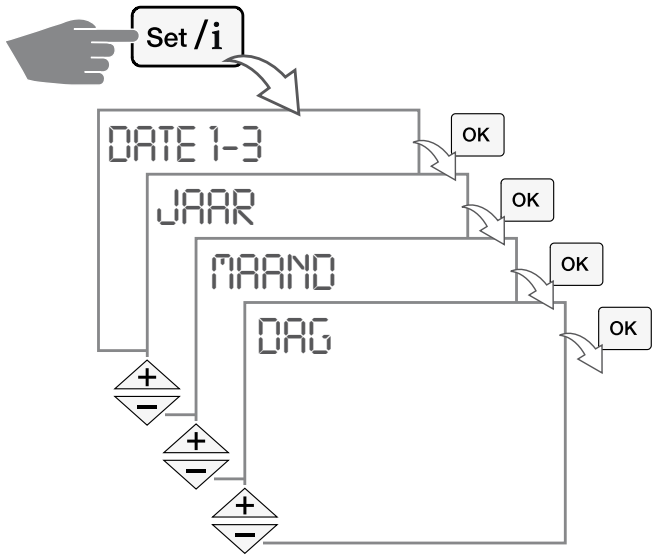
- Met de **+/–** knoppen kunt u jaar, maand, dag uur en minuut instellen.
- Druk op **OK** om de keuze te bevestigen.
- Voor een gedetailleerde procedure voor het instellen van een nieuw programma zie hoofdstuk „Nieuw programma – Centrale verwarming (CH)“ of „Nieuw programma – Huishoudwater (DHW)“.

Instellingen

Druk 5 seconden op de **SET/INFO**-knop om in het menu „Instellingen“ te komen. Hier kunt u datum, tijd en programma's voor centrale verwarming en huishoudwater instellen.

Met de **+/–** knoppen kunt u kiezen tussen:
– 1-3 = instellen van de datum
– 2-3 = instellen van de tijd
– 3-3 = instellen van de programma's
(centrale verwarming of huishoudwater)

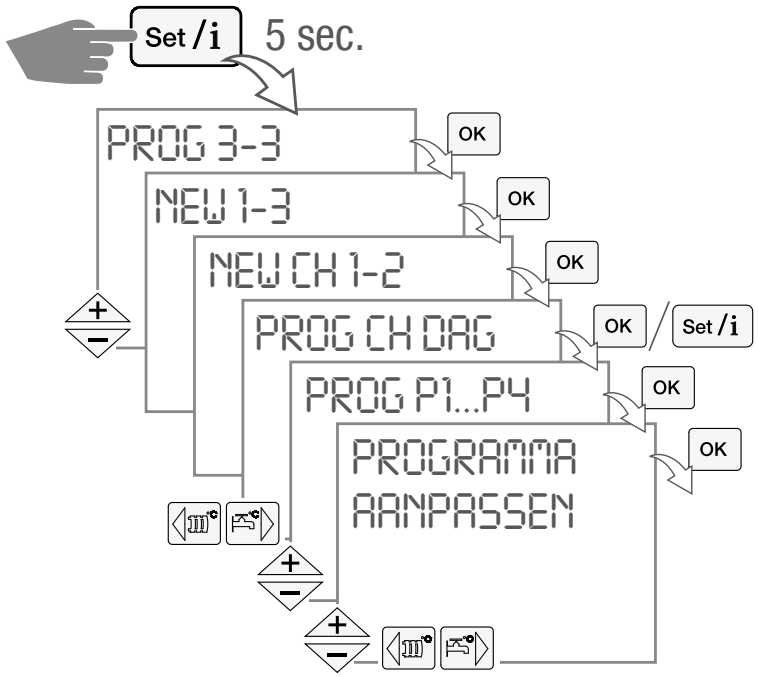
Datum en tijd instellen



- Met de **+/–** knoppen kunt u jaar, maand, dag, uur en minuut instellen.
- Druk op **OK** om de keuze te bevestigen.

- Het instellen van de tijd gebeurt op dezelfde wijze als het instellen van de datum.

Nieuw programma – Centrale verwarming (CH)



1. Druk 5 seconden op de **SET/INFO**-knop.
2. Kies **PROG 3-3** ➔ **OK**
3. Kies **NEW 1-3** ➔ **OK**
4. Kies **NEW CH 1-2** ➔ **OK**
5. Gewenste dagen kiezen (◁ of ▷-knop)

Kies tussen:

- complete week: 1-7
- werkweek: 1-5
- weekeinde: 6-7
- losse dagen: 1, 2, 3, 4, 5, 6, 7

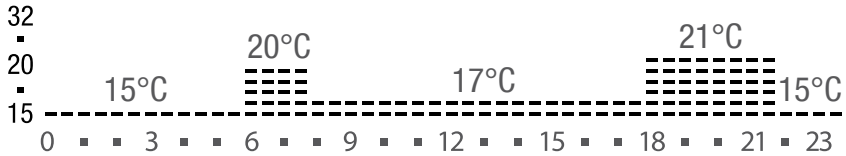
▶ Dagblok met **OK** bevestigen.

▶ Losse dagen met de **SET/INFO**-knop kiezen. Individueel dagblok vervolgens met **OK** bevestigen.

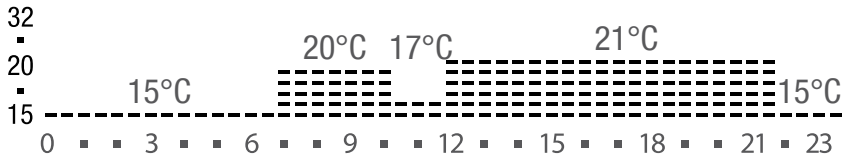
Programma kiezen

Aan elke weekdag of dagblok moet een programma **P1, P2, P3, P4** (voorgedefinieerd) of **Pd** (gebruikergedefinieerd) toegewezen worden.

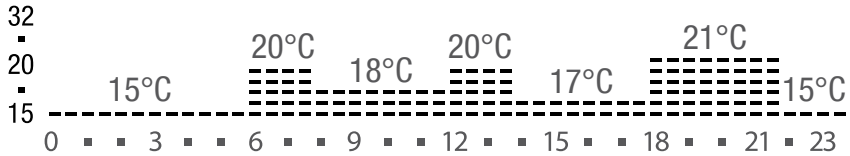
P1



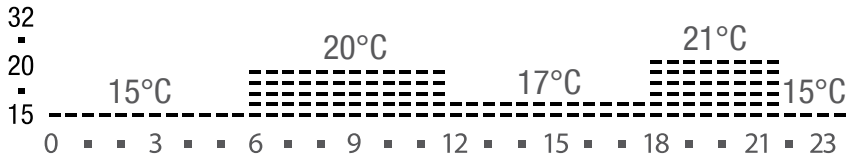
P2



P3



P4



Pd

Gebruikergedefinieerd programma.

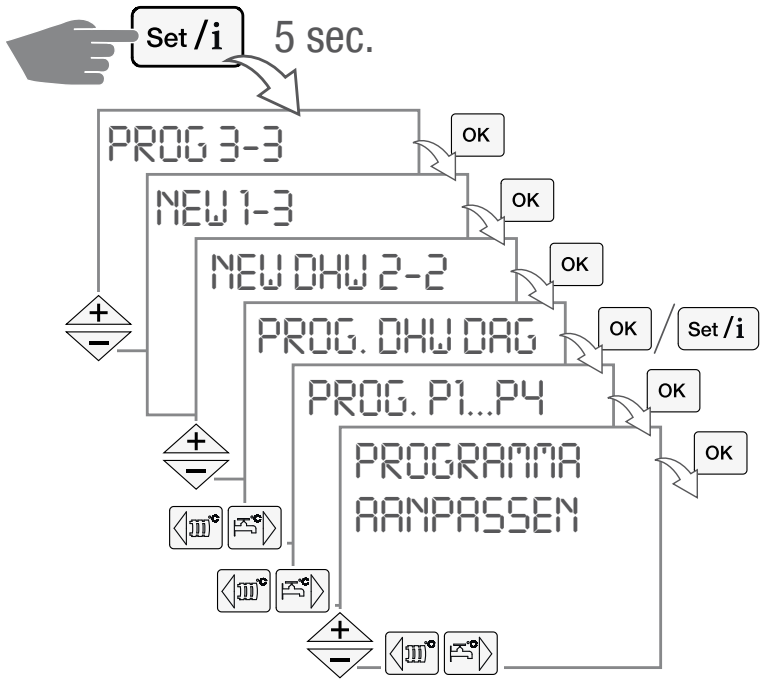
6. Gewenst programma kiezen **+/–** en met **OK** bevestigen.

Indien gewenst, kunt u de voorgedefinieerde programma's P1-P4 modificeren of onder Pd een eigen programma maken.

Gebruik de **+/–** knoppen om de temperatuur stap voor stap met 0,5°C te verhogen/verlagen.
Gebruik de ◁ of ▷-knop om telkens 30 Minuten vooruit/terug te gaan. De hiervoor ingestelde temperatuurwaarde wordt daarbij overgenomen.

7. Druk op **OK** om de instellingen op te slaan.

Nieuw programma – Huishoudwater (DHW)



1. Druk 5 seconden op de **SET/INFO**-knop.
2. Kies **PROG 3-3** ➔ **OK**
3. Kies **NEW 1-3** ➔ **OK**
4. Kies **NEW DHW 2-2** ➔ **OK**
5. Gewenste dagen kiezen (◁ of ▷-knop)

Kies tussen:

- complete week: 1-7
- werkweek: 1-5
- weekeinde: 6-7
- losse dagen: 1, 2, 3, 4, 5, 6, 7

▶ Dagblok met **OK** bevestigen.

▶ Losse dagen met de **SET/INFO**-knop kiezen. Individueel dagblok vervolgens met **OK** bevestigen.

Programma kiezen

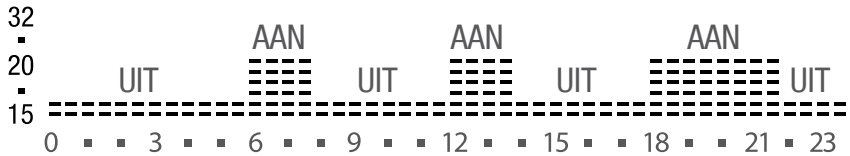
Aan elke weekdag of dagblok moet een programma **P1, P2, P3, P4** (voorgedefinieerd) of **Pd** (gebruikergedefinieerd) toegewezen worden.

6. Gewenst programma kiezen **+/–** en met **OK** bevestigen.

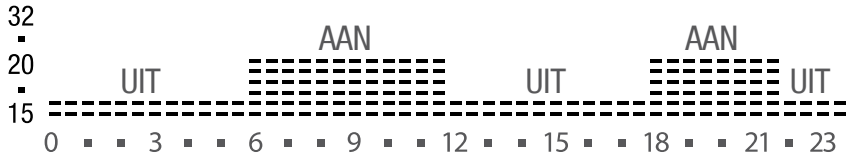
P1

P2

P3



P4



Pd

Gebruikergedefinieerd programma.

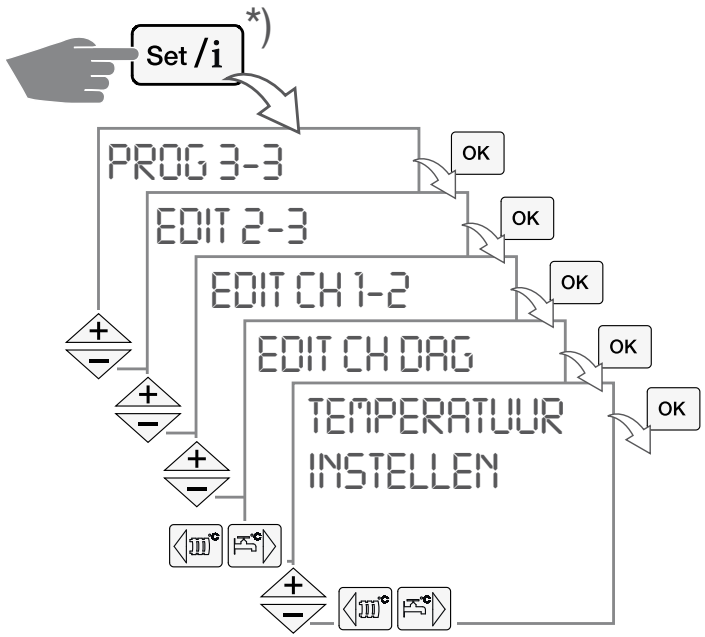
Indien gewenst, kunt u de voorgedefinieerde programma's P1-P4 modificeren of onder Pd een eigen programma maken.

Gebruik de **+/–** knoppen om de bereiding van huishoudwater IN of UIT te schakelen. Gebruik de ◁ of ▷-knop om telkens 30 Minuten vooruit/terug te gaan. De hiervoor ingestelde waarde (AAN/UIT) wordt daarbij overgenomen.

7. Druk op **OK** om de instellingen op te slaan.

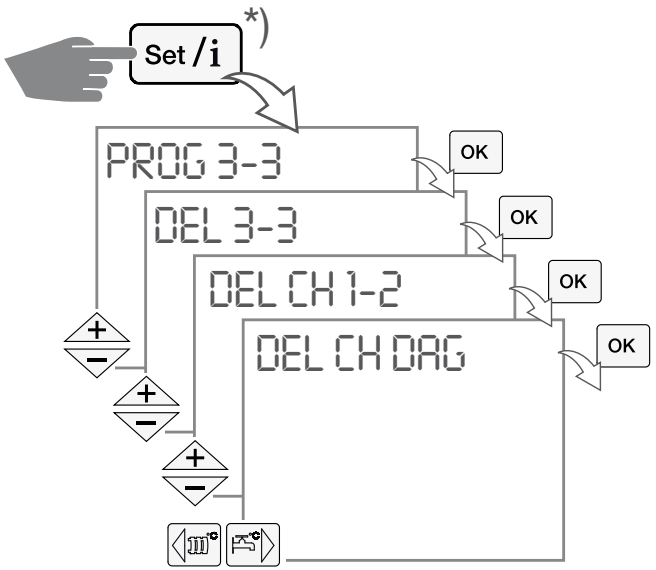
Om de programma-afhankelijke bereiding van huishoudwater te activeren moet u in het temperatuurmenu „Huishoudwater“ de instelling **tIM** kiezen, zie pagina 136.

Programma bewerken



*) Druk 5 seconden op de knop.

Programma wissen

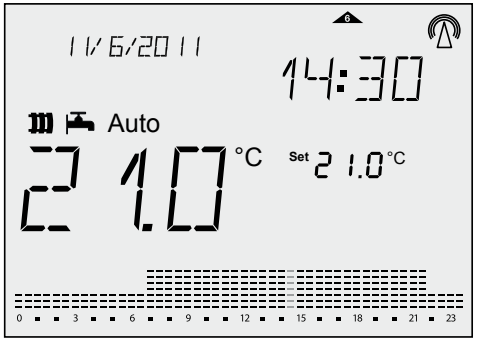


*) Druk 5 seconden op de knop.

Modi

Druk zo vaak op de **MODE**-knop tot de gewenste modus verschijnt en bevestig met **OK.** Druk 5 seconden op de **MODE**- of **ESC**-knop om de desbetreffende modus voortijdig te beëindigen. De kamerthermostaatklok keert vervolgens terug naar de automatische modus.

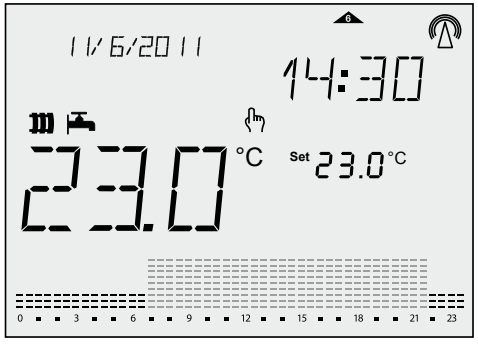
Automatische modus



Symbool: Auto (bij een van de ruimtetemperatuur afhankelijke regeling)
Auto + **otc** (bij een van de buitentemperatuur afhankelijke regeling)

Na elke programmering keert het apparaat terug naar de automatische modus. Hier lopen de voorgedefinieerde of gebruikergedefinieerde programma's.

Handmatige override (bij een van de ruimtetemperatuur afhankelijke regeling)



Symbool:

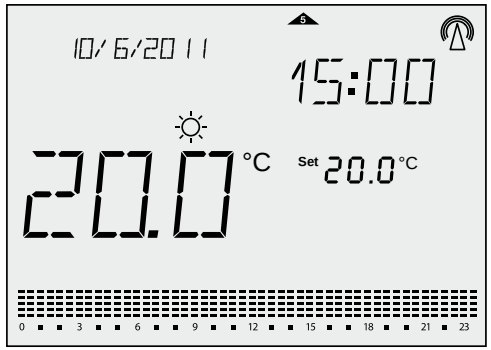
Bij een van de ruimtetemperatuur afhankelijke regeling kunt u met de handmatige overridefunctie de actueel ingestelde temperatuur bij een

gesloten behuizing verhogen of verlagen. Met de △▽ knoppen stelt u de gewenste temperatuur in. Een bevestiging met **OK** is niet nodig. De ingestelde waarde geldt voor de actuele periode en blijft behouden tot de volgende programmawissel (tijd en temperatuur).
Om naar de automatische modus terug te keren drukt u 3 seconden op de bovenste △▽ knoppen of opent u de deksel van de behuizing en drukt u op **OK**-knop.

Comfort-temperatuur-modus

Symbool: ☼

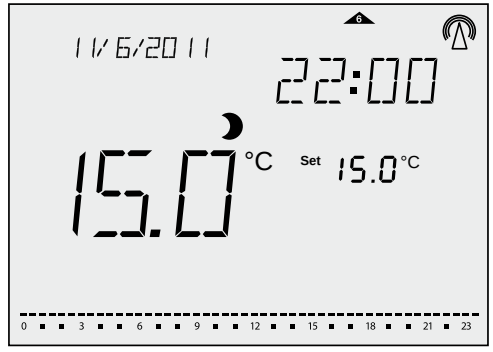
In de comfort-temperatuur-modus wordt de temperatuur voor de actuele dag ingesteld op een waarde (voorinstelling van fabriekswege: 20°C). Bij het begin van de volgende dag (00:00 uur) keert de kamerthermostaatklok terug naar de automatische modus. De comfort-temperatuur kan ingesteld worden in het gebruiker-menu.
Druk op de **MODE**-knop om de comfort-temperatuur-modus voortijdig te beëindigen.



Verlaagde temperatuur-modus

Symbool: ☽

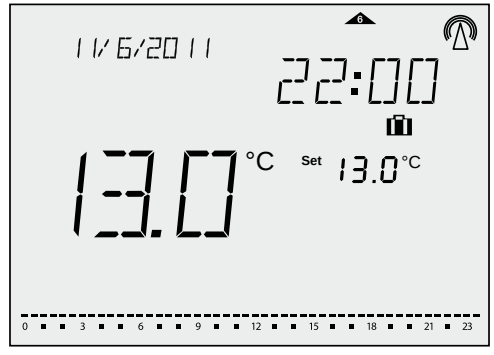
In de verlaagde temperatuur-modus wordt de temperatuur voor de actuele dag ingesteld op een waarde (voorinstelling van fabriekswege: 15°C). Bij het begin van de volgende dag (00:00 uur) keert de kamerthermostaat terug naar de automatische modus. De verlaagde temperatuur kan ingesteld worden in het gebruiker-menu.
Druk op de **MODE**-knop om de verlaagde temperatuur-modus voortijdig te beëindigen.



Vakantiemodus

Symbool: 🧳

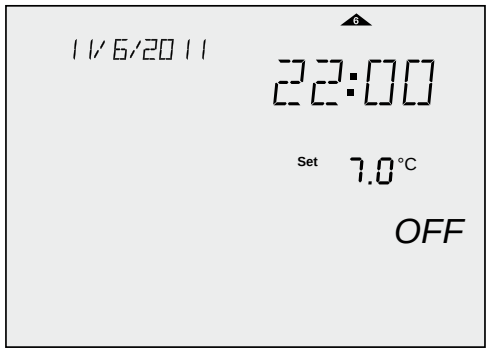
Deze functie laat een ingestelde temperatuur (7 - 18°C) voor een bepaalde tijdsduur ingeschakeld. De instelbare tijdsduur bedraagt 1 – 90 dagen. De startdag is de actuele dag.
Na afloop van de ingestelde tijd keert het apparaat terug naar de automatische modus.



Met de **+/–** knoppen kunt u temperatuur, datum en tijd instellen. Druk op de **OK**-knop om de keuze te bevestigen.
Druk op de **MODE**-knop om de vakantiemodus voortijdig te beëindigen.
Druk op de **ESC**-knop om de instellingen van het vakantieprogramma te wijzigen.

OFF-modus

Symbool: *OFF*



Deze modus schakelt het systeem uit (de vorstbeveiliging wordt gehandhaafd). Om de OFF-modus te activeren druk u 5 seconden op de **ESC/STANDBY**-toets. Om de OFF-modus te verlaten druk u opnieuw 5 seconden op de **ESC/STANDBY**-toets.

De standby-modus kan alleen ingesteld worden in de automatische modus.

Externe ingangen

Druk gelijktijdig 3 seconden op de knoppen **OK**, **MODE** en **SET/INFO** tot het installatie-menu (**INSTALLERS MENU**) getoond wordt. Onder **EXTERNAL INPUT (EXT)** kunt u de externe ingang configureren.

Aanwezigheidsmelder (DIGI)

Wanneer u een aanwezigheidsmelder op de externe ingang aansluit, moet u in het installatie-menu onder **EXTERNAL INPUT (EXT)** de instelling **MdC** (aanwezigheidsmelder) kiezen.
De aansluitwijze van de aanwezigheidsmelder moet een sluitercontact zijn.

Na aansluiting van de aanwezigheidsmelder schakelt de kamerthermostaatklok naar de verlaagde temperatuur-modus (☽ + ⧖). Herkent de aanwezigheidsmelder bewegingen in de ruimte, schakelt de kamerthermostaatklok gedurende de volgende 30 minuten naar de comfort-temperatuur-modus (☼ + ⧖).
Herkent de aanwezigheidsmelder verdere bewegingen voor afloop van de 30 minuten, wordt de comfort-temperatuur-modus met nog eens 30 minuten verlengd.
Worden binnen 30 minuten geen bewegingen meer herkend, schakelt de kamerthermostaatklok terug naar de verlaagde temperatuur-modus.

Venster-/deurcontact (DIGI):

Wanneer u een venster-/deurcontact op de externe ingang aansluit, moet u in het installatie-menu onder **EXTERNAL INPUT (EXT)** de instelling **UdC** (venster-/deurcontact) kiezen.
De aansluitwijze van het venster-/deurcontact moet een sluitercontact zijn.

Na aansluiting van het venster-/deurcontact schakelt de kamerthermostaatklok naar de automatische modus. Wanneer vensters/deuren langer dan 2 minuten geopend worden, schakelt de kamerthermostaatklok naar de verlaagde temperatuur-modus (☽ + ⧗). Worden de vensters/deuren weer gesloten, keert de kamerthermostaatklok na 2 minuten terug naar automatisch bedrijf.

Telefoonafstandsschakelaar (DIGI)

Wanneer u een telefoonafstandsschakelaar op de externe ingang aansluit, moet u in het installatie-menu onder **EXTERNAL INPUT (EXT)** de instelling **tLF** (telefoon) kiezen.
Kies vervolgens onder **EXTERNAL PHONE MODE (EPM)** de instelling **rdC** voor de verlaagde temperatuur-modus of **CoM** voor comfort-temperatuur-modus.
De aansluitwijze van de telefoonafstandsschakelaar moet een sluitercontact zijn.

Na aansluiting van de telefoonafstandsschakelaar schakelt de kamerthermostaatklok naar de automatische modus. Wanneer de telefoonafstandsschakelaar geactiveerd word, schakelt de

kamerthermostaatklok afhankelijk van de instelling naar de comfort- of verlaagde temperatuur-modus (☼ + ☎ / ◗ + ☎). Deze modus wordt zo lang uitgevoerd tot de telefoonafstandsschakelaar weer gedeactiveerd wordt of u op de **ESC**-knop drukt. De kamerthermostaatklok keert vervolgens terug naar de automatische modus.

Buitentemperatuursensor (OTS)

Een van de buitentemperatuur afhankelijke regeling (OTC) maakt het de boiler mogelijk bij veranderingen van de buitentemperatuur snel te reageren om zo de toevoertemperatuur aan te passen en een constante ruimtetemperatuur te waarborgen.

Wanneer u een buitentemperatuursensor (NTC 100 kΩ) op de externe ingang aansluit, moet u in het installatie-menu onder **OUTDOOR TEMPERATURE SENSOR (OTS)** de instelling **ON** kiezen.

De van de buitentemperatuur afhankelijke regeling moet u in het installatie-menu onder **OTC REGULATION (OTC)** activeren (**ON**). Wanneer u de van de buitentemperatuur afhankelijke regeling niet activeert (**OFF**), wordt op de display alleen de actuele buitentemperatuur getoond.

De buitentemperatuurvoeler kan ook direct verbonden worden met de boiler. Een van de buitentemperatuur afhankelijke regeling is ook hier mogelijk, de actuele buitentemperatuur wordt echter niet op de display van de kamerthermostaatklok getoond.

Gebruiker-menu

Druk gelijktijdig 3 seconden op de knoppen **MODE** en **SET/INFO** tot het gebruiker-menu (**USER MENU**) getoond wordt. Om naar het volgende menupunt te gaan drukt u op de ▷-knop; om naar het voorgaande menupunt te gaan drukt u op de ◁-knop.
Gebruik de **+/–** knoppen om instellingen te wijzigen en bevestig deze met **OK**.

De volgende instellingen zijn mogelijk:

Displayverlichting (D_t)	Inschakelen van de displayverlichting (5, 10 of 15 seconden)
Displayhelderheid (D_B)	Instellen van de der displayhelderheid (0 = UIT, ..., 4 = 100%)
Displaycontrast (D_C)	Instellen van het displaycontrast (0 = min., ..., 15 = max.)
Comfort-temperatuur (COT)	Instellen van de comfort-temperatuur (15°C tot 24°C)
Verlaagde temperatuur (RET)	Instellen van de verlaagde temperatuur (7°C tot 15°C)
Offset (OFS)	Mogelijkheid om te gemeten temperatuur in te stellen/modificeren (-5°C...+5°C)
Zomer-/wintertijd (SWT)	activeren/deactiveren van de automatische omschakeling
Tijdformaat (TMF)	12h of 24h formaat instelbaar
Fabrieksinstellingen (DFL)	Herstellen van de fabrieksinstellingen

Installatie-menu

Druk gelijktijdig 3 seconden op de knoppen **OK**, **MODE** en **SET/INFO** tot het installatie-menu (**INSTALLERS MENU**) getoond wordt. Om naar het volgende menupunt te gaan drukt u op de ▷-knop; om naar het voorgaande menupunt te gaan drukt u op de ◁-knop.
Gebruik de **+/–** knoppen om instellingen te wijzigen en bevestig deze met **OK**.

De volgende instellingen zijn mogelijk:

Maximum temperatuur (HIT)	Instellen van de maximum temperatuur voor programma's (centrale verwarming) max. waarde: +32°C, vooringestelde waarde: +32°C
Minimum temperatuur (LOT)	Instellen van de minimum temperatuur voor programma's (centrale verwarming) min. waarde: +7°C, vooringestelde waarde: +15°C
Vorstbeveiliging (FRT)	Instellen van de vorstbeveiliging-temperatuur van +3°C tot +7°C vooringestelde waarde: 5°C
DHW temperatuur (HWT)	Instellen van de maximum temperatuur voor programma's (huishoudwater) min. waarde: +20°C, max. waarde: +85°C, vooringestelde waarde: +60°C

DHW tijd (HWt)	Instellen van de tijd voor bereiding van huishoudwater – ON (AAN) = de hele dag bereiding van huishoudwater – OFF (UIT) = geen bereiding van huishoudwater tIM (timed) = programma-afhankelijke bereiding van huishoudwater
Legionellafunctie (ALG)	Instellen van de legionellafunctie: ON (AAN) of OFF (UIT) Om de ontwikkeling van ziektekiemen in reservoirs van huishoudwater gedurende langere periodes van stilstand te verhinderen wordt het huishoudwater één keer per week (woensdag, 2:00 uur) een uur lang tot 70°C verhit. (alleen beschikbaar wanneer een apart reservoir voor huishoudwater aanwezig is.)
Regeling (REG)	Keuze tussen PID- en 2-punt-regeling(vooringesteld: PID)
Systeemreactie (S_R)	Instellen van de reactie van het verwarmingssysteem – Snel (FSt): 12 cycli per uur (vooringesteld) – Middel (Med): 6 cycli per uur – Langzaam (Slo): 3 cycli per uur (alleen beschikbaar wanneer de regeling (REG) op PID gezet is)
Differentieel (DIF)	Instellen van de differentiële waarde van 0.1°C tot 0.9°C (alleen beschikbaar wanneer regeling (REG) op 2P gezet is)

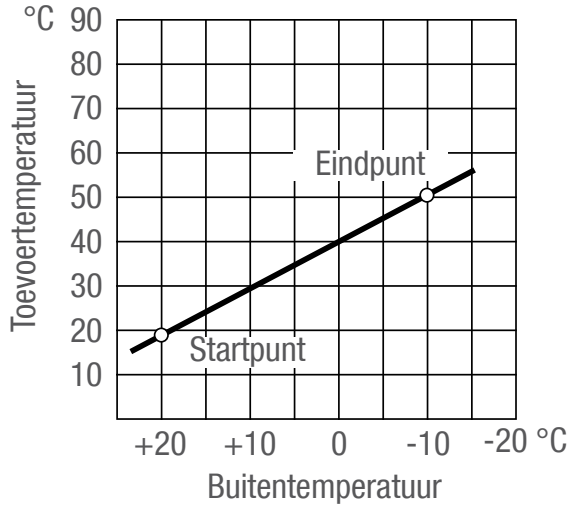
Optimum-start (OPS)	Instellen van de optimum-start: ON (AAN) of OFF (UIT) (de temperatuur wordt op de ingestelde tijd bereikt.)
Warmte-gradiënt (THL)	Instellen van de snelheid/tijd om de gewenste ruimtetemperatuur te bereiken: 1°C/uur, 2°C/uur of 4°C/uur (alleen beschikbaar wanneer optimum-start (OPS) op ON gezet is)
OTC regeling (OTC)	Instellen van de OTC regeling op ON (AAN) of OFF (UIT)
Installatietype (ITC)	Instellen van het verwarmingstype: 1, 2, 3 of 4 1 = 90/70 systeem, 2 = 70/50 systeem (vooringesteld), 3 = 50/35 systeem, 4 = 40/30 systeem (alleen beschikbaar wanneer de OTC regeling (OTC) op ON gezet is)
Externe ingang (EXT)	Instellen van de externe ingang: OFF (UIT), tLF (telefoon), UdC (venster-/deurcontact) of MdC (aanwezigheidsmelder)
Externe telefoonmodus (EPM)	Instellen van de externe telefoonmodus: rdc = verlaagde temperatuur-modus of CoM = comfort-temperatuur-modus (alleen beschikbaar wanneer de externe ingang op tLF gezet is)
Buitentemperatuursensor (OTS)	Instellen van de buitentemperatuursensor: ON (AAN) of OFF (UIT)
Toetsblokkering (LOK)	Activering van de toetsblokkering tegen ongeoorloofde toegang. Om de toetsblokkering te deactiveren druk u 3 seconden gelijktijdig op de **MODE** en **ESC/STANDBY**-toets.

Bedrijfsuren (OPT)	Weergave van de bedrijfsduur van de kamerthermostaat (max. 99.999 uren).
Onderhoud (MAN)	U kunt instellen of, en na hoeveel maanden een onderhoudsmelding getoond moet worden – 6M (6 maanden), 12M (12 maanden), 18M (18 maanden), 24M (24 maanden), rST (reset) of OFF (UIT). Na afloop van de ingestelde tijd verschijnt een melding op de display.
Batterij-toestand (BAT)	De laadtoestand van de batterij wordt getoond op de display.

Van de buitentemperatuur afhankelijke regeling (OTC)

Bij een van de ruimtetemperatuur afhankelijke regeling worden start- en eindpunt van de stooklijn ingesteld. Deze kunt u in het installatie-menu onder **INST_TYPE** instellen.

Om de temperatuur tijdelijk te wijzigen kan de stooklijn met de toetsen △▽ worden verschoven, zie handmatige override pagina 159.



Soort verwarming

Verwarmingstype	instelbereik	Toevoer-/retourtemperatuur
Radiatorverwarming	Hoge temperatuur	+90°C/+70°C
Radiatorverwarming	Gemiddelde temperatuur	+70°C / +50°C
Radiatorverwarming	Lage temperatuur	+50°C/+35°C
Vloerverwarming	Laagste temperatuur	+40°C/+30°C

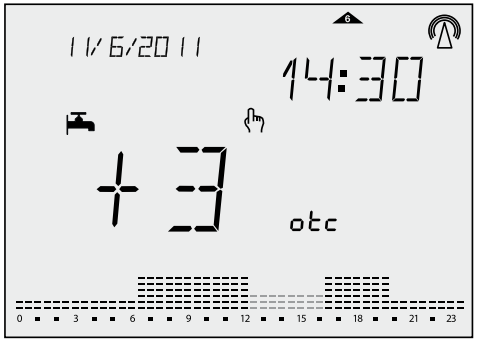
Instelling van het verwarmingstype

Verwarmingstype	Menu-keuze*	SL-startpunt	SL-eindpunt	P-verschuiving Verlaging
90 / 70 systeem	1	+30°C	+85°C	-15°C
70 / 50 systeem	2	+25°C	+75°C	-15°C
50 / 35 systeem	3	+25°C	+55°C	-15°C
40 / 30 systeem	4	+25°C	+45°C	-15°C

*) De keuze van het verwarmingstype legt u vast in het installatie-menu onder **INST_TYPE**.
Kies het passende verwarmingstype voor uw systeem.

Handmatige override (bij een van de buitentemperatuur afhankelijke regeling)

Symbool: + **otc**

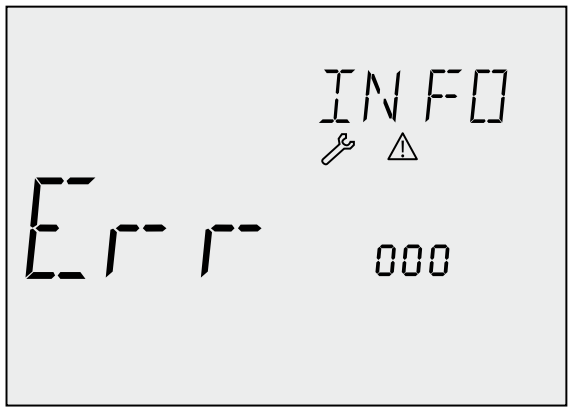


Bij een van de buitentemperatuur afhankelijke regeling kunt u met de handmatige overridefunctie de actuele stooklijn parallel verschuiven om de ruimtetemperatuur te verhogen of te verlagen.
Met de △▽ knoppen stelt u de gewenste doelwaarde van -5 tot +5 in, d.w.z. een verschuiving van de stooklijn met max. 5 K. Een bevestiging met **OK** is niet nodig. De ingestelde waarde geldt voor de actuele periode en blijft behouden tot de volgende programmawissel (tijd en temperatuur).
Om naar de automatische modus terug te keren drukt u 3 seconden op de bovenste △▽ knoppen of opent u de deksel van de behuizing en drukt u op **OK**-knop.

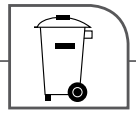
Foutmeldingen

Zodra een storing optreedt, verschijnt het waarschuwingssymbool ⚠ op de display.

▶ Druk op de **SET/INFO**-knop om de foutcode te zien.



Foutcode	Beschrijving
000	Gestoorde verbinding – Geen communicatie met boiler
001	Storing – Boiler geblokkeerd
002	Te lage waterdruk (centrale verwarming)
003	Storing gas/vlam (boiler)
004	Storing luchtdruk (boiler)
005	Water te heet (centrale verwarming)
006	Diagnose/Service indicatie
007	Geen verbinding met de buitentemperatuurvoeler



Verwijdering / recycling

Het verpakkingsmateriaal moet volgens de wettelijke bepalingen en verordeningen vakkundig worden verwijderd.

Neem voor de verwijdering van defecte systeemcomponenten of het systeem na de levensduur van het product de volgende aanwijzingen in acht:

- Verwijder vakkundig, d.w.z. gescheiden naar materiaalgroepen van de te verwijderen delen.
- Doe in geen geval elektrisch of elektronisch afval gewoon bij het huisvuil. Gebruik de desbetreffende inleverpunten.
- Verwijder altijd zo milieuvriendelijk als het past met de stand van de milieubescherming, recycling- en verwijderingstechniek.

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